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IN EDMONTON

Submitted by LYNFA ANNE JONES
in partial fulfilment of the requirements for the degree of Master of Arts

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Date October 12, 1982.

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To All Those:

who by help, encouragement,
pricking of conscience or use of
the goad, caused this thesis
to be written.

ABSTRACT

Locational variations in use of library services in Edmonton are examined by focussing on the least used branch - Sprucewood, and the most used branch - Jasper Place. To try to determine causes for the different use patterns, the administration and goals of the library system are reviewed, as well as constraints on use which operate on potential patrons. The particular constraint of limited time and related distance is studied to determine if it affects distinct socio-economic segments of the population in diverse ways, and is, therefore, a determinant of library use patterns.

A change in library planning procedures is proposed. These changes include the establishment of goals which would result in a neighbourhood based library service model. This library service strategy would lessen the difficulties of access experienced by certain segments of the population, and will result in a more equitable urban environment for library service for the citizens of the City of Edmonton.

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CHAPTER 1

LITERATURE REVIEW - GEOGRAPHIC APPROACHES

The study of the distributions of various phenomena in space, and the interactions between people and these distributions has been a traditional geographic concern. In amenities whose location is planned by man, one of which is libraries, a fair and equitable location has been interpreted as location at points as equidistant from population sources as possible. As economic constraints will not allow one facility per person, the location allocation approach has most often been used. This approach does not seem to have been highly successful as some people continue to avail themselves of the existing services to a much greater extent that do others. More recent geographic approaches have attempted to explain this variation in use by incorporating individual differences into service models (Cox and Golledge, 1969, p.5).

In behavioural geography approaches to service use and provision have generally taken two forms. The division can be broadly stated as resulting from differing political views of man. The more conservative of the approaches have assumed that man has freedom of choice of behaviour, and constraints imposed by the environment are ignored. Studies have focussed on motivations, perceptions, attitudes and learning experiences and the possibilities of behaviours occurring with equal probability amongst people who have freedom to behave in any given way.

The more socialistic approach recognizes that every person is constrained by physical and biological constraints, as well as by attitudinal constraints and this limits their access to (or ability to couple or connect with) given opportunities (Thrift, 1977a p. 7, Cox, 1974, p. 42).

Moreover, these constraints are not equal for all people (Anderson, 1971, p. 363). In order for some people to enjoy equality of opportunity, greater inputs from society are required. The present study advocates the latter approach to provide a structure in which library services could become equally accessible to all groups of people. Accessibility has many facets, individual ability or inability to access; locational aspects; and institutional methods to improve access. This thesis only briefly mentions library methods of improving materials accessibility and concentrates on (1) individual ability to access and (2) locational aspects of accessibility.

Specific Approaches: Location-Allocation Models and Service Provision:

Location-allocation modelling is a method of determining optimum locations for facilities that provide goods or services to consumers at a minimum cost, whether of money or travel, while at the same time the costs to the producer or provider of the goods is also minimized (Bigman and Revelle, 1978, p. 230, and Davies, 1974, p. 240). It is essentially an economic concept which has been applied in geography. It always implies value judgements, for example, it assumes an equality among present users to start with and works at developing a system of distribution over what it sees as a uniform plane (Smith, 1977, p. 54), and on this uniform plane, distance decay affects use.

Bigman and Revelle point out a seemingly obvious fact that the benefits of governmental services decline with distance from the point of provision (Bigman and Revelle, 1978, p. 231). A similar trend has been observed in the use of the specific service being studied - libraries. B. Berelson writing as long ago as 1949 on the provision of library services stated that "several U.S. studies have demonstrated the surprisingly obvious generalization that the nearer people are to a public library, the more they use it" (Berelson, 1949, p. 119). But, the simple fact of distance alone does not tell the whole story of the relationship between distance and library use. Many studies of the subject fail to take into account the social composition of the population at different distances from the library, "... if poorly schooled and poorly served, little use will be made of the library" (Berelson, 1949, p. 119).

The above quotation points out a difficulty encountered in many of the common models of service provision, that of the relationship between distance, use and the social composition of an area. Interaction between service location and the patterns of population is a two way movement. Services occur because of the existence of a given population, but population patterns including activities can change because of the existence of a given service. Optimum service provision must, therefore, be attuned to the social composition of the area, be flexible, because areas of need change (Bigman and Revelle, 1978, p. 120), and yet retain the benefits of centralization, or quality of service declines. In large centralized facilities the number of books, staff and other services are high, but distance is great between at least some of the users and the facility. With small decentralized facilities distance is decreased but access may be reduced because of fewer services, staff and books or equipment (Garrison, 1973, p. 32). The services provided must, therefore, be extensive enough for the existing population of the area and also by physically accessible to the particular group of people it serves.

Until recently, the most common allocation models have not taken notice of differences in individual users. They are strictly economic, relying on the concept of rational economic man, and are based on the philosophy of a market economy, rather than a user economy (Harvey, 1973, p. 102). Within this mould, location of facilities has been based on available funds, population size and distance. In more complex models, environmental barriers, for example major roads or rivers, have been considered. Optimality in such models has been defined in terms of cost minimization. Personal barriers have not generally been included. There are individual differences in ability to overcome distance constraints because of diverse economic, physical, social and mental or emotional resources. The last mentioned resource includes such things as difference in motivation to overcome distance constraints. In a U.S. study of access to public libraries, it was recognized that different subgroups in a city may all have the same right to travel to a library but that for some, "the trip itself is a deprivation" (International Research Associates, 1963, p. 53).

Recent models of location, recognizing the inadequacies in a system which imposes service location on people - a downward modelling strategem, instead of providing services based on the demand or need of the people, an upward model, have approached the problem in two ways:

1. By recognizing that the process is a mutually adaptive one (Clark, 1969), where not only does distribution of facilities change in response to population change, but population patterns change in response to the distribution of facilities ("population patterns" is used here in a way that includes activity patterns).
2. By recognizing that overall averages for service distribution in a city, is not a good method of evaluating the effectiveness of service provision. Needs vary in different sections of the city, as do the means of availing oneself of the existing services or of a "coupling" with it (Cox, 1974, p. 41 and Clark, 1969, p. 196).

Brown's study of day care provision in Ohio was an example of an attempt at setting up an effective service pattern. A map exhibiting particular need areas for day care services was developed and then different levels of service models were applied to the need areas than were applied to less needy areas. This method comes closer to dealing with problems of individual differences, but only on a broad demographic level for example number of children, one parent families (Brown et al., 1972).

Other allocation models aware of "public needs and preferences" use equal time or distance of travelling to a facility as the criteria for measurement (Bigman and Revelle, 1978, Revelle, Mark and Lieman, 1970, Teitz, 1968). The least distance travelled by those furthest away produces an efficiency measure of the model.

This idea uses, in a limited way, the notion of equal outputs. The measurement used is the distance every user travels rather than the usual one of measuring inputs of money or effort in order to produce the desired result.

The latter concept still ignores differential abilities to travel the required distance because of environmental or personal constraints. An approach to overcoming the constraints would combine the above two types of models to see diverse need areas measured on a socio-demographic plane. The results would be used to produce a service model, the success of which would be measured by looking at the outputs or effectiveness of the system. That is, the aim of the service would be to encourage equal use levels in every area rather than just ensuring that equal amounts of time and money are spent in each location.

Behavioural Geographic Approaches

Geography has been stated to be the study of "distributions, patterns and processes in space" (Cox, 1974, p. 41). Human geography focusses on the human side of these spatial phenomena and behavioral geography focusses upon the particular processes which underly human behaviours which give rise to patterns and distributions in space (Golledge, Brown and Williamson, 1972, p. 1).

Studies within behavioural geography have generally followed one of two main streams of thought in the area:

1. The choice approach, which tends to subscribe to the idea of freedom of choice within the environment but individual predispositions to act in a certain way. The reasons for the predilection under study are sought in past learning, present belief or perception and as such the unit of study is the individual (Golledge and Brown, 1967, White, 1967, Saarinen, 1966).
2. The constraints approach which emphasizes limitations imposed by the environment and which are seen to be of three kinds:
    a. capacity constraints, for example physiological limitations.
    b. coupling constraints such as lack of time, unsuitable institutional hours of opening.
    c. authority constraints such as legal or social restrictions (Carlstein et al., 1977, p. 429).

The emphasis is on the commonality of these restrictions on certain groups of people, and it is then an aggregative approach.

While the division between the two approaches has been stated to be an ideological one (Pahl, 1970, ch. 13), the differences may, in part, be due to the diverse nature of the populations under study. Certain groups do have less free choice than others; the poor have less than the wealthy; the handicapped less than the healthy; the time-restricted less than those with an abundance of leisure-time; greater choice exists for people living close to amenities than for those living far away from them. Disadvantaged people generally are more subject to environmental constraints than are others. One of the environmental constraints is often that they are restricted to residential areas which are less costly in housing prices, rental costs and transportation costs. In other words they tend to be grouped together and because of this it is easier to use the aggregative approach when studying constraints.

Ideological differences between the two approaches are apparent in the fact that the study of constraints recognizes that not all segments of the population enjoy equal access to opportunities and it studies this problem of inequity in society.

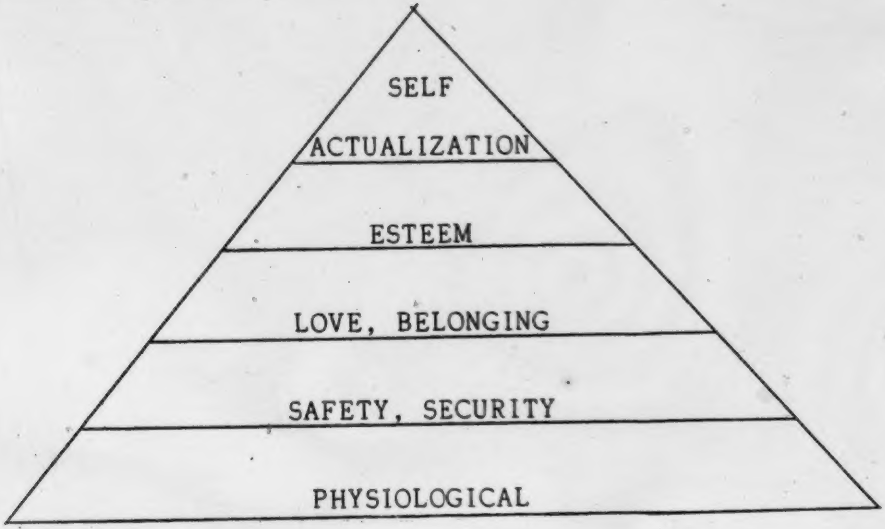
The particular physical constraint imposed by time will be studied. Geography with its emphasis on distance is closely tied to ideas of time, as Marcel Proust said "Distance is nothing more than the relationship between time and space" (Proust, in Carlstein, 1977, p. 99) and Yi Fu Tuan, "the relationship is one of here and there and now and then as here is nothing more than now, and there is nothing more than then" (Tuan, in Carlstein, 1977, p. 11). While these ideas are ultimately sound enough, space does exist independently of time. Certain capability constraints operate on people, such as need for sleep, age, physical incapability, which at least in the short term, are more related to distance and the nature of the space along that distance than they are to time. However, as a measure of ability or lack of ability to use a certain facility, time is a most useful predictor. If people have little leisure time, or have it at inappropriate times - when services are not open, they can never interact with those services.

While the above approach emphasizes the physical constraints of time it is also accompanied by motivational constraints. Every person is constrained by his lack of time, and a lifetime is all the time any person has. If whatever time necessary was available to fulfill all basic needs and move on to satisfy nonbasic needs there would not need to be any great differences in behaviour. When time is very limited and related effort is large to partake of a non-compulsory, non-essential activity, the chances are less that people will avail themselves of the activity. This is especially so in the case of activities whose reward may not be immediate (as is the case of poor readers attending libraries). The conflict over whether or not to do something has been called the approach-avoidance conflict. The more desirable and immediate the reward, the more "pain" will be endured to reach it (Skinner, 1953, p. 176). Learning theorists generally consider the most basic reward to be those which satisfy drives, such as sexual drives, hunger drives and others (Skinner, 1953, 1971). The humanists have emphasized a more social approach suggesting that man finds great rewards in the satisfaction of human emotions such as love, belonging, esteem (Rogers, 1961, 1971). Without entering into the argument between the two schools of thought, it does seem that people strive to attain both kinds of rewards. A psychologist who advocated a 'simple' or 'midway' approach is A. Maslow, who has suggested a hierarchy of needs which motivate man to various behaviours. The lower levels of the hierarchy need to be satisfied before the other levels begin to motivate (Maslow, 1954, p. 119). The levels are (from the most basic up):

1. Physiological goals - food, air, water, rest.
2. Safety goals - freedom from fear, danger, deprivation including a preference for the familiar to the unknown.
3. Social goals - belonging, giving and receiving love.
4. Ego goals or esteem needs - self respect, respect of others.
5. Self actualization goals - to realize our fullest potential or our continued self-development.

The needs are generally presented by Maslow as a pyramid (see Fig. 1) as the lowest needs assume most importance. The lower needs are called the "most prevalent" of all drives, in that if a person was lacking everything he would feel more strongly for these lower needs than any other, and all capacities not useful for satisfying these needs would be dormant (Maslow, 1971, p. 117).

FIGURE 1 HIERARCHY OF NEEDS



Maslow further stated that in his theory "gratification becomes as important a concept as deprivation, since once a need is satisfied it releases the organism from its domination" (Maslow, 1971, p. 118). This theory is contrary to the behaviourist theory of drives, where the drives always exist whether or not the need is presently satisfied (Skinner, 1953, 1971). One of the implications of Maslow's theory is that it explains differing behaviour by the existence of differing drive levels. In a constant drive theory, the drives are always equal for all and other theories are necessary to explain differing behaviour. The other theories usually emphasize choice through learning (Golledge and Brown, 1967, p. 116).

Use of public libraries is not one of the behaviours which obviously lead to satisfaction of any of the three lower levels of needs. It can, however, relate to both self esteem and other esteem needs and to self-actualization needs. As such it will not be prepotent until other needs are well-satisfied.

Associated with the five levels of motivation are various social systems. In particular, three motiviational systems have been identified:

1. economic systems
2. educational systems
3. family and kinship systems (Wilson, 1977, pp. 8-10).

All of these systems have obvious ties to the satisfaction of physiological, safety, love and esteem needs. Wilson, further suggests that libraries are only a supporting institution to these systems and, therefore, are not seen as immediate sources of reward.

In 1968 a group of researchers from Stanford Research Institute prepared a list of the percentages of people in the U.S.A. living at each of Maslow's five levels, and estimated the percentages that would be living at each level in 1990. (Table 1). In essence they were suggesting that even though society is gradually releasing people from the lower survival levels of poverty, they still have a long way to go before other levels in the hierarchy are attained. These findings are backed up by the Perspectives Canada II report which mentions the fact that in order to survive and be secure in Canada in 1973,

TABLE 1. PERCENTAGE OF PEOPLE AT MASLOW'S FIVE LEVELS.

	LEVEL	1965	1990
1.	Survival (physiological)	10%	2%
2.	Security	15	17
3.	Belonging (or love)	43	33
4.	Esteem	30	37
5.	Growth (self-actualization)	2	11
		100%	100%

Source: Stanford Research Institute

3.2% of the population had to work at more than one job (Perspective Canada II, 1977, p. 135). In 1978 the situation had not changed much with 12.7% of the population working more than 50 hours a week (Perspective Canada III, 1980, p. 93). This leaves little time and also little motivation to do anything unrelated to the lower levels of the hierarchy. At the third and fourth level, that of belonging and esteem, much of the motivation to attend a library would be related to whether or not family, friends and colleagues respect and exhibit the same behaviour. The last mentioned group of behaviours, belonging and esteem, have been categorized as social influences which have been shown to change behaviour [Changes in behaviour can arise as a result of compliance to demands and requests (Milgram, 1965) conformity to group viewpoints (Crutchfield, 1955), and reaction to leaders in a persuasive message (Hollander, 1961 and Fiedler, 1962)]. When behaviours are changed in response to these esteem and belonging influences, an internalization process often follows. This process conforms closely to a self-actualization stage and is "when an individual adopts a behaviour because the induced behaviour is congruent with his value system" (Kelman, 1961, p. 457).

It is expected, therefore, that because of the pressure to survive and be secure little time and drive will exist for other pursuits. What time remains will be spent in a largely socially influenced manner. It will be important to determine whether these social influences exist and if and how they influence the person to attend or not attend a library.

Considering the levels of the hierarchy, it can be argued that certain groups more easily attain the lower levels of motivation and become motivated by the higher levels than do other groups. The more wealthy and mobile a person is, the easier it is to satisfy the lower levels of the hierarchy. The poorer, or older one is the more difficult it is to attain the higher levels. In other words, the "limits of free choice are generally wider for the more wealthy and spatially mobile" (Anderson, 1971, p. 373, Harvey, 1973, p. 64 and Elkin, 1972, p. 227). The poor (in time and money) are constraihed physically by the environment, time and money, and motivationally by the inability to easily satisfy the basic needs, which would mean that the "self-actualization" stage in the hierarchy would not be likely to become a driving force in the lives of these groups.

Public libraries are not obvious providers of the basic need for food, drink, shelter, money, medical or safety services. They do provide services to satisfy the self-actualization stage of motivation; knowledge, information and aesthetic satisfaction. It is impossible to quickly and easily solve the general problems of the poor and thereby increase time and motivation to use the libraries, but it is not impossible to reduce the constraints to library use which require greater motivation to overcome them.

Goals and Purposes of Public Libraries

In its narrowest sense, the purpose of a library is to store, organize and circulate books and other stored information. As books are one of the most ubiquitous of the current repositories of culture and civilization and for many years were the only ones, the storage and dissemination of culture via books has been the most important function of a library. "Wherever there is a civilization, there must be books, and wherever there are books, there must be libraries" (Jost in McColvin, 1970, p.4). This statement may be an oversimplification of the purpose of libraries, but at the present time free libraries do store and circulate materials on all, or nearly all, aspects of civilization.

In the English-speaking world, the growth of nationalism as well as horror at the results of the First World War prompted a concern to educate the peoples of these lands to the benefits of preserving fredom and democracy which was seen to be one of the "good" aspects of "our" culture (McColvin, 1970, p.1).

Consequently, in 1927 the aims of a public library in Britain were stated to be:

1. relieve the tedium of idle hours.
2. develop a taste for good English.
3. enable rural inhabitants to acquire general knowledge.
4. impart knowledge of public affairs, local history and citizenship.
5. provide facilities for the study of arts, trades and professions.
6. remove, as far as possible, all obstacles from the path of the serious student of any subject.

(1927 Public Library Committee, in McColvin, 1970, p. 1)

Despite the obvious biases toward the white, English-speaking way of life, in the above, three basic areas of library service emerge from this statement:

1. Leisure services, as mentioned in numbers 1, possibly 2 above.
2. Educational services, as mentioned in numbers 2, 3, 5 and 6.
3. Information services, as mentioned in number 4.

These basic categories of library service remain much the same today but they have been expanded to include such things as the affective components of knowledge (Durisch, 1967, p. 102) and the social welfare awareness of individuals (Campbell, 1973, p. 2).

An active societal role for the library was suggested in 1972 by Lipsman who stated that although the traditional view of the function of a library was that it should collect, organize and disseminate knowledge and information through printed and other media, a better and more up-to-date view would see them involved as an agent of "social and individual change" (Lipsman, 1972a, p. 11). This attitude has been widely debated in library circles because it implies the adoption of a particular value system on the part of library administrators. The concept is not new since in the past libraries had sought to actively disseminate the values of English-speaking people to immigrants to their countries (Banfield, 1972, p. 12). It had also sought to educate "common man" so that he could vote wisely in a democratic society (Chandler, 165, p. 22). The logical extension of this way of thinking was that libraries should go further and actively seek to modify behaviour (Lipsman, 1972a, p. 11), to bring it into accord with the general norms of society.

Between the two extreme views of complete passivity in a library system or complete involvement in social activism, falls the way adopted by most library administrators of today, and accepted in this thesis: that libraries ought to champion the cause of equal access to information and culture, but ought not to champion any one political or cultural motivation in its selection of materials.

The U.S. office of Health, Education and Welfare adopted the middle way discussed above, feeling that the equal access aspect should be actively pursued and that a library should be a type of meeting place, or a system of communication whose value lies in the use individuals make of it. It should, therefore, not be neutral or passive but must also not be restrictive in direction (U.S. H.E.W., 1968, p. 9). They see libraries as having two main functions:

a. that of providing a place for the meeting of minds and ideas not limited by normal time, space and social and economic level;

b. becoming an institution that allows and encourages the development and extension of ideas, not their passive absorption but their active generation (U.S. H.E.W., 1968, p.8).

The first of these two aspects is passive, but the second by using the word "encourages" is essentially active, but not directive, in nature. As such a library is not seen as a warehouse of books (see later reference to a new approach in libraries called book warehousing which is different from what is meant here), collections of reading rooms or just sets of reading devices (U.S. H.E.W., 1968, p. 9).

The idea of libraries as an essential link accommodating the lag between the sending and receiving of formal messages (the meeting of minds not limited by time and space) has also been used by Meier who looks at libraries in a communications framework (Meier, 1962, p. 2). He notes that while increases in communication rates is a prerequisite to economic (and personal) growth, overloading causes disorganization. The value of libraries is seen, then, as being the system set up to handle the overload in information by organizing and storing communication for future use. The information can then be processed as needed and received in a printed form that can be reviewed and puzzled over as needed (Meier, 1962, p. 18).

The ability to puzzle over the materials is dependent upon the possession of the required abilities: the ability to "couple" with the institution and the ability to read what it contains. The latter concern is a pressing problem even in the twentieth century. In 1976, 28.5 million people in the U.S. were found to be in need of basic literacy training. In particular, 80% of the inmates of prisons, both adult and juvenile, either cannot read or have a reading problem. In today's society, literacy is essential for normal functioning, for example, forms must be filled out, advertisements read, credit and leasing forms understood (Lyman, 1977, p. 5). The United Nations is so concerned about the problem it designated September 12, 1981 as International Literacy Day. If a minimum level of literacy exists, libraries can supply the materials to help increase this level, an example of this has been the introduction of pocket books, comic books and minimum reading level books into both public and institutional libraries.

The library as an important component in the development of human resources is an old concept having roots back in the very earliest public education acts (Sheppard, 1965, p. 31).

Carnegie and others argued strongly that the library was a necessity to educate people to vote knowledgeably. Later librarians were seen as agents to help assimilate European immigrants into "the urban, middle-class, American style of life" (Banfield, 1972, p. 12).

More recently the U.S. government has designated libraries as having an important place in helping attain the national objective of elimination of poverty and the achievement of rapid social and economic development in the U.S. (U.S. H.E.W., 1968, p. 12). These are two separate but not entirely distinct areas, as the U.S. government and other commentators on the scene feel that the real tragedy of poverty is the waste of human potential which could be contributing to the productivity of the nation (Rosenberg, 1964, p. 652).

The aims of libraries in helping to alleviate poverty and enable social and economic development by providing information services, educational services and leisure services, cannot be met if insufficient and inappropriate amounts of time are available for library use, or if there is no motivation to spend available leisure time at libraries. These two constraints, that of insufficient time and lack of motivation to use libraries are the constraints to use dealt with in this thesis. The first of these so-called "coupling constraints" (Thrift, 1977, p. 7), that of time, can be narrowed down to a shortage of leisure-time, as this is when public libraries are generally used.

Leisure has been defined as "those activities taking place during time not used for (1) remunerative employment, (2) activities related to remunerative employment (such as commuting), (3) household work and personal maintenance" (Perspective Canada II, 1977, p. 133). With shorter work weeks, flexible hours, greater holiday times, earlier retirement and fewer children, the amount of leisure time available to people has greatly increased. With the increase has developed a greater concern as to how leisure time is, will and ought to be spent. By the year 2001, one person in ten will be sixty-five years old and older. If the retirement age remains the same, this will mean a large percentage of people in Canada will be living with an overabundance of leisure time. Moreover, if present trends continue, "there will be a higher proportion of females and widows, with lower cash incomes, less education, lower mobility and like the very young, with a problem of dependency, than exists in the population at large" (Perspective Canada II, 1977, p. 35). It can be seen that the present policy of locating leisure, education and information facilities on a pattern which assumes equal mobility will have to be adjusted, especially if these groups are to be able to take part in the leisure activities generally available to others.

Another group which finds itself disadvantaged in full use of leisure time is the lower socio-economic group, and especially poorer women. In this case, the problem is not inability to use leisure time, but the fact that they do not have as much of it. Despite women's liberation, many women put in far more hours than the national average, especially if they work outside the home, as well as inside it (Table 2, Feldheim and Javeau, 1972, p. 222). Lower income males, also work long hours, many at two jobs in order to make a living wage. (In 1973, 3.2% of the people in Canada held multiple jobs, working from one to three extra hours a day (Perspective Canada II, 1977, p.136).

TABLE 2. HOURS OF WORK FOR WOMEN

	WOMEN NOT WORKING OUTSIDE HOME	
	Hours of Work	Child Care
Number of Children Under 6	35.0	17.3
Number of Children Under 2	41.8	17.3
Children 13-17 years	40.9 - 59.1	
	WOMEN WORKING OUTSIDE HOME	
	Hours of Work	Child Care
Children Under 6	22.2	10.1
Children Under 2	24.7	7.5

(Source: Perspective Canada II, p. 136)

During leisure-time, the participation in passive, at-home entertainment, such as watching television or listening to the radio, is much higher amongst the lowest income categories than amongst the higher ones (as much as an average of fifteen hours a week). Reading is low on the list for all groups, but is especially low amongst the groups with low income, who do not read at all (Table 3, Perspective Canada II, 1977, p. 141, Perspective Canada III, 1980, p. 120 and City of Edmonton Leisure Survey 1980).

TABLE 3. PERCENTAGE OF PEOPLE WHO HAVE READ A BOOK IN THE LAST YEAR

CANADA				CITY OF EDMONTON
1975		1977		1980
MALE	FEMALE	MALE	FEMALE	MALE AND FEMALE
49.3	64.4	65.8	77.6	71.7

Sources: Perspective Canada II and III, p. 141, City of Edmonton Leisure Survey. unp.

Libraries in Canada at this point in time are not fulfilling their role as providers of leisure services, and especially not to low income groups who generally are restricted by stringent time constraints.

Only 29% of the people of Canada visited a library at all (once in the twelve months prior to 1976) and a large percentage of the fourteen to sixty-four year old group never visited them. The number of Albertans who have not visited a library in that year is exceeded only by the number of Manitobans, Prince Edward Islanders and Quebecois who did not visit (Tables 4 and 5). The reasons for this are not easy to find but the libraries in the province of Alberta do not appear at present to be meeting the needs of the people. It is suggested that one of the reasons for this could be an inability among certain groups of people to match their free time to library hours or lack of sufficient time to attend a library at all. Related to these problems is a low motivation to make use of the services offered.

Public libraries are not an obvious necessity. They do not provide food, drink, shelter, money, medical or other safety services, nor is attendance at them compulsory (Wheeler, 1958, p.4). They can then only exist because society values them. They can only be useful if society is able to use them and is motivated to do so because they are perceived as being of use. The obvious way of doing this in a time-constrained environment is to reduce the amount of time (and therefore effort) necessary to reach and use them by reducing the friction of distance and to increase the motivation to use them by advertising that they have a place in helping people to satisfy their lower level needs by providing needed knowledge and skills.

In order to reduce the amount of time necessary for the poor to reach libraries, or to enable them to match their free time with opening times, certain new ideas of funding for libraries must be adopted which recognize the value of libraries and allow for flexibility in the allocation of funds.

Library Funding and Location Problems

Libraries are one of that class of services called by economists variously a "merit good" or a "public good". A merit good has been defined as a "product or service which could be provided by the market, but it is not demanded in sufficient quantities, according to a value judgement made by society"

TABLE 4. ATTENDANCE AT LIBRARIES, JULY AND AUGUST, 1975 BY AGE

AGE	% NEVER VISITED	% VISITED 1-3 TIMES	% VISITED 4 OR MORE TIMES	TOTAL
14-24	25	49	26	100
25-44	12.5	59	28.5	100
45-64	12	61	27	100
65+	13	52	35	100

(Source: Perspectives Canada II p.142)

TABLE 5. ATTENDANCE AT LIBRARIES, JULY AND AUGUST, 1975 BY PROVINCE

PROVINCE	% NEVER VISITED	% VISITED 1-3 TIMES	% VISITED 4 OR MORE TIMES	TOTAL
Newfoundland	14	55	31	100
Prince Edward Island	26	50	24	100
Nova Scotia	19	51.5	29.5	100
New Brunswick	19	51	30	100
Quebec	25	50.5	24.5	100
Ontario	15	55	30	100
Manitoba	21	55	24	100
Saskatchewan	17	60.5	22.5	100
Alberta	19	57	24	100
British Columbia	12	58	30	100

(Source: Perspectives Canada II p.143)

(Tiebout, 1972, p. 96, Elkin, 1972, p. 22, Smith, 1977, p. 78). A public good has also been said to imply "the existence of values shared by all people" (Meier, 1962, p. 5) but is more precisely defined by Smith to apply only to necessary services which must be provided for collectively, for example, fire protection, police protection, and defence (Smith, 1977, p. 78). As libraries are not an essential service, funding for them is always more of a problem.

The idea of libraries existing only as a result of a value judgement made by society has been borne out by survey results in the U.S. and in England. In 1949 a U.S. survey covering most states showed that whereas only 18% of the sample used public libraries, 75% of the respondents thought they should exist (Survey Research Center, 1949, p. 3). Similarly, in England, 68% of the respondents to a 1971 survey favoured the existence of libraries (Tatterdell and Bird, 1976, p. 88). Tiebout has attributed this to what he calls a "halo effect" which means the positive spillover effects people feel that they receive from the existence of a service, in this case libraries (Tiebout, 1972, p. 96). Even though people feel they should have library service, funding for them has often been a problem.

As a partial solution to the funding problem, one suggestion has been that user fees could be adopted with the revenue being used to provide better services than could otherwise be provided (Tiebout, 1972, p. 97). The idea has gained in popularity in the U.S. since the introduction of Proposition 13 in California, and cuts in public spending in other states which have resulted in lower library funding levels. If library service is deemed a "merit good", then it should be available to all people regardless of their ability to pay. The people most discriminated against by user fees are generally those who, it can be argued, need libraries most, for example, the poor, the elderly, people with lower education, unemployed or people with less ability to avail themselves of information. The reason these groups are stated to have a greater need for libraries is related to the scope and purpose of libraries discussed earlier in the chapter.

A general increase in funds for libraries in general is needed if society does value their existence, but this is only one part of the problem. If a different approach to allocation of funds within the library system was adopted, results could be improved even more. By emphasizing equal outputs for society rather than equal inputs, of funds and effort, the result of equal effects might be achieved (Harvey, 1973, p. 64, Downey, 1974, p. 58). More money would be spent on areas of shown need to produce equal outputs, specifically equal library use levels between the poorer and the wealthier areas. This concept could be taken further and better than equal use of libraries be held as the ideal for areas with little other access to information and cultural materials.

Librarians have traditionally relied on inputs as a measure of success rather than outputs. That is, they have generally spent a lot of time on such things as the formation of standards to be applied in every similar type of library and are, therefore, supplier-oriented rather than user-oriented (Tatterdell and Bird, 1976, p. 120). This approach has been taken, in part, because it is a more complex procedure to use outcomes to establish input levels for a given service. The main reason, however, has been an economic one. Funding for libraries has always been a problem and standard setting was seen as a means of forcing more public funds to be spent in libraries. Traditionally, all efforts have focussed on the necessity of making a library system use the limited funds efficiently.

The question of scale economies is an important one in considering library efficiency. There are certain functional requirements that cost too much to exist in a small, decentralized branch, for example, compilation of bibliographies, acquisition of reference materials such as indexes and cataloguing and processing of materials. These are services that can suffer from diseconomies of scale and the efficiency factors outweigh the equity considerations.

Another point in considering the location and distribution of libraries, is whether or not the service is essentially a "point face to face" service which requires personal contact at a set location to be effective (Ironside in Smith, 1978, p. 235). Library service by its nature is not a direct person to person service. It is an information retrieval service whereby one person has access to another person's thought by a set system. Sometimes this requires the intervention of a third person directly, sometimes the system set up by the third person is all the help that is needed (Quigg, 1968, p.97). To provide face-to-face service at any time requires the availability of sufficient funds.

There are methods of overcoming the problems of cost and the need to provide some face to face contact with the providers of the system, while retaining the benefits of smaller more dispersed services. These include the setting up of:

1. hierarchies of libraries in which the necessity for specialized services does not exist at every level.
2. flexible facilities including mobile and other non-permanent library outlets.
3. integrated services between library branches and between libraries and other services delivered via automated systems. (See Chapter 4).

The provision and location of library services is only one side to the problem of library use. The other aspect of library provision is its use or non-use by patrons. Why do some people exhibit use and other non-use behaviours? The behavioural geographic approach has attempted to answer this question by trying to establish reasons why some groups of people find services more accessible to them than do others. The accessibility problem is the one dealt with in the thesis, and, as a geographer, the facility accessibility approach, rather than the materials accessibility approach although it is recognized that making the facility accessible without also making the materials accessible (the realm of library science) will not lead to equitable service provision.

Accessibility to libraries has many aspects and these have been stated to be:

a. societal accessibility, whereby society provides the sources

b. institutional accessibility; the organization that offers the services must exist and must facilitate the service provision.

c. physical accessibility.

d. psychological accessibility; the individual must recognize the need for the service and be willing to seek for it.

e. intellectual accessibility, where the individual must be capable of using the service.

(Dervin, 1973, p. 319).

As has been previously stated, society has seen fit to provide library services so (a) above is taken care of, while (b) lies wholly in the library science discipline area. The thesis will concentrate on the physical and psychological, (or motivational), aspects of accessibility and on the factors which limit the ability to couple with library services which exists for certain population groups.

The Study

A framework common to both the library science and the geography disciplines, is the community analysis approach. This approach emphasizes the necessity of understanding the nature of the local community being served (Berelson, 1949, p. 119, Coughlin, 1972, p. 19). The community is studied to try to determine the different behaviours which occur in different areas, and then the factors causing or contributing to the different behaviours are examined.

The method chosen to study processes underlying the library attendance behaviour of two different communities is time budget and questionnaire analysis. The rationale for using these methods is that people tend to spend their time according to quite regular relationships related to house, work, school, etc. (Meier, 1962, p. 49). In cases where time is more restricted than the average, the motivation to use it in a given way has to be greater than average. This could be important in low-income families where enjoying leisure activities means foregoing income producing activities (Becker, 1965, p. 47). Habits based on the allocation of the scarce resource of time tend to be formed (Meier, 1962, p. 67), with the more basic needs of the individual being satisfied first (Maslow, 1954, p. 119). Time/space budgets are used to study an existing situation or problem, that of library usage, in the belief that the geographer can contribute to the "understanding, accumulation and solution of existing problems in the contemporary world (Brown et al., 1974, p. 1) and in the belief that relevance in research is an important concept (Frazier, 1978, p. 1).

Time Space Diaries and Time

Edmontonians are generally experiencing increased amounts of disposable time (City of Edmonton, Economic Review, 1979). If Edmonton is the same as Canada as a whole, the increased amount of disposable time may not be equally distributed.

Statistics Canada information points out the lack of time of wives and mothers, and lower income peole compared with the Canadian average (Perspective Canada II, 1977, p. 141). John Porter in The Vertical Mosaic asserts that if low income families do achieve high consumption levels, it is because of a second income, either the wife working or through a second job (Porter, 1965, p. 5). In other words, it is at the cost of leisure time. Freedom of access for time-pressured population groups, means new location and time patterns will be necessary for them.

Time is utilized as a dimension of space in that movement in space consumes time and it is often this time aspect that is the limiting factor on whether or not an activity takes place. "Time geography tries to explain the reason for non-events" (Thrift, 1977, p. 33) by examining the "coordination of individual's possibilities of action in time and space with existing objects and organizations in time and space" (Thrift, 1977, p.4). The "non-event" to be explained in this case is lack of patronage of a public library and the individual's possibilities of coupling with the library will be measured by the use of time space budgets and questionnaires.

The time-geographic approach is different from the "space-time" budget approach which emphasizes the individual's freedom of choice in the environment (Thrift, 1977, p. 5). As mentioned previously, emphasis on environmental constraints rather than lack of them is a philosophical difference arising from a particular view of mankind. The socialistic approach tends to consider constraints while the free enterprises or free market approach concentrates on freedom of choice (Pahl, 1970, ch. 13). Limits on options are often quite stringent reflecting personal circumstances and environmental factors, with "obligatory" or "essential" activities taking up much more time than "discretionary" activities (Anderson, 1971, p. 364). According to Anderson, "behavioural geography has often run the risk of losing sight of the social contexts within which observed people are behaving" (Anderson, 1971, p. 365). The more realistic approach is to study constraints and allocation rather than preferences and demands (Smith, 1977, p. 64). By using this time-space geographic approach, emphasis is shifted away from distance to where and when contacts can be made (Anderson, 1971, p. 359). Whether the motivation can exist to make this contact is studied by assuming that the limitations on time, the pressing need to satisfy physiological, safety and belonging needs first, and the perception of whether a library can help achieve this satisfaction all help determine how discretionary time will be used.

The study will look at "the pattern of spatial and social constraints which operate differentially in given locations" (Pahl, 1970, p. 218) and attempt to devise a method for defining areas where special constraints operate and put forward a model of service provision to encourage use of libraries within these need areas.

Two locations will be studied, the area of Edmonton around the least used branch library in the City - the Sprucewood

Branch, which is situated in an area of low income. Time space budgets will be used to study constraints of people in this area so that some idea of their daily life schedule of activity can be gained.

The data obtained will be compared with similar data gathered from people who live around the second most used library in Edmonton, the Jasper Place Branch. This library was chosen as there is some indication from library-user data collected by the Edmonton system that the most used Branch, Southgate, functions more as a regional facility rather than as a normal branch library (Siegal, A.M., 1980, Personal Interview).

Life schedules are studied by means of time-space diaries, a daily record kept by the respondents of all their days activities, their duration and location. Socio-demographic information is also collected about the respondents and questions are asked to try and determine whether libraries may be experienced as satisfying one of Maslow's five levels of need. Because of the difficulty in obtaining large samples willing to keep diaries, and because no one method can satisfactorily get at the whole picture, questionnaire information gathered on time constraints will also be used to develop an overall picture of the time-space behaviour of groups of Edmontonians.

CHAPTER 2

PUBLIC LIBRARIES IN EDMONTON, ADMINISTRATION AND PLANNING

Libraries around the world are variously placed under Education Departments (New Zealand, U.S.A., and South America), or Recreation Departments (formerly in Britain) (Municipal Yearbook, 1979, Penna, 1970, p. 77). Britain has recently established a Ministry of the Arts and Libraries with funding to be augmented from a newly established National Heritage Fund (Edmonton Journal, Nov. 1980). Because of the increasing interest in Recreation and Leisure services, it has been stated that the future trend will be towards integrating the arts and libraries with recreation departments to give them a "more important voice" (Bryant, in Gerard, 1972, p. 109). This step would put it under a more general planning authority which could have some concern about the locational aspects of service provision (Wheeler, 1958, p. 8).

Libraries in Canada are of the class of services which come under the jurisdiction of the Provinces. Within Alberta the authority for libraries is split between three different departments, depending upon their type. Academic libraries come under the Department of Advanced Education; school libraries under the Department of Education; and public Libraries under the Department of Culture which in 1978 separated from the Department of Recreation. The split in jurisdictions means that, at present, integrated Provincial planning of libraries is difficult. When the Downey Report was produced in 1974 recommending that an integrated system of libraries be established in Alberta, the three types of library institutions could not agree on how to proceed with the implementation of the recommendations (L.W. Downey, 1974). The proposed network would have integrated all existing libraries into one system with one or two libraries that would act as resource libraries for smaller Alberta libraries. Some local autonomy would be lost but the aim was better overall service to the public.

Within individual municipalities, further problems arise because of the nature of the legislation providing for them. The authority for public libraries in Alberta Municipalities is established under the Municipal Government Act, Chapter M26, Part 5, Recreation and Community Service Section where it is stated that a

> council may pass a bylaw providing for the acquisition of land, the construction of buildings and the operation, regulation, maintenance and control thereof, and for all matters pertaining to the establishment and assistance to music, art, libraries, planetariums, museums and zoos as the council may determine (216).

The Libraries Act 1980 (Chapter L6) states that under the provisions of the Municipal Act and the passign of appropriate bylaws for borrowing money the Municipality may pass a bylaw establishing a public library. All matters relating to public libraries in Alberta come under the Minister of Culture who is advised by the Alberta Library Board (Libraries Act, Part 2: 6).

The Libraries Act causes some problems for the orderly development of libraries in that the provision to develop a library is a voluntary decision for Alberta municipalities, and no bottom limit for municipal tax funding to support then is specified.

The Libraries Act sets out the form of municipal management for public libraries stating that "it shall be managed by a board of management of not less than five and not more than ten members all of whom shall be appointed by the council of the municipality from among the residents thereof". (Libraries Act, Part 3, 1.4). Where the municipality is over 15,000 in population, no more than three council members can sit on the board at the same time. (Libraries Act, Part 3: 15)

The above regulations result in the situation in Edmonton where management of public libraries is done wholly by library boards who have authority to acquire land and buildings or to lease them for library purposes. Because only three council members may sit on the board, it is not directly responsible to council.

It is also not directly subject to Planning Department control, nor is it part of Parks, Recreation, Culture or Education sections of the City Administration. It is run by a board which meets a minimum of "once every three months" (Library Act Part 49: (1), and which is respondible for the "general management, regulation and control of the library" (Library Act, Part 4: (1). The library itself, through an administrator, and a chief librarian is responsible for the day-to-day running of the library. In this respect it follows the American model of library management.

The library board in Edmonton generally meets once a month to consider library business. As a matter of convention, Mr. A. Rowe (Administration Manager) and Mr. Vince Richards (Edmonton Public Library Director), attend library board meetings. A perusal of board minutes over several years (1977-81) shows that generally most of the background study work in preparation for policy decision is referred to the Library administration.

While the board is aware of population pressures for new libraries in certain areas, the initiation of specific site investigation appears to have been instigated by letters from developers suggesting locations in their own shopping centres at reduced rentals, or location in sites in which they have an interest (Board minutes, 1978, pp. 13-16 re: Mill Woods and Castle Downs locations). While suggestions are not always accepted, (Castle Downs, Mill Woods was not), precise locational strategies for locating libraries in Edmonton do not exist at present.

The latest suggestions for locations in Mill Woods Leisure Centre and West Jasper Place Leisure Centre have come from citizen groups. The former for economic reasons, to help defray costs of the centre, and the latter, apparently out of a desire to see an integrated leisure service, family-oriented facility built in their district. The library in Mill Woods centre has been agreed to on a temporary basis. The proposed branch in West Jasper Place has been subject to debate by the library administration as a commercial location is generally preferred by the Board. (City of Edmonton correspondence). These latest proposals for integrating libraries with other leisure services is encouraging a measure of cooperation between the Recreation Department and the Edmonton Public Library. *1

A degree of interaction between Recreation, Planning and Libraries is achieved in that all come under the Commissioner of Public Affairs. Further, for purposes of corporate planning, libraries are grouped together with recreation into one "functional area". Corporate planning, however, does not cover the physical planning side, only the coordination of such things as budget and policies as contained in the Local Policy Plan *2 which is a five year plan. Within this plan goals for each city function are set out.

The goal of the E.P.L. is stated to be:

> To provide the highest possible quality, user-oriented public library service to the citizens of Edmonton. The underlying purpose of this service is to enrich the lives of the citizens by meeting their needs for information and leisure through a variety of media, with emphasis on the printed word.
>
> The library is open to all, but its special responsibility is to those who have no other library to use.
>
> (City of Edmonton, L.P.P. 1982-86, p. 194).

The group of people with no other library to use are often middle-life (29 years or older) or elderly and relatively disadvantaged financially. People in higher income brackets often work at

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*1 Hereafter referred to E.P.L.

* 2 Hereafter referred to as L.P.P.

jobs which provide access to special libraries either on-site or via interlibrary loan. For example, Edmonton metropolitan area has 135 special libraries in private or governmental agencies, and academic libraries in schools, colleges and universities. (CASLIS, 1981).

Until recently, little notice has been paid to the location of services in Edmonton, including libraries (Ironside, in Smith, 1978, p. 234). However, with the report of the Mayor's Task Force on Civic Government, now under review and the establishment of Human Service Delivery Systems in the City, changes may occur in the planning of service locations.

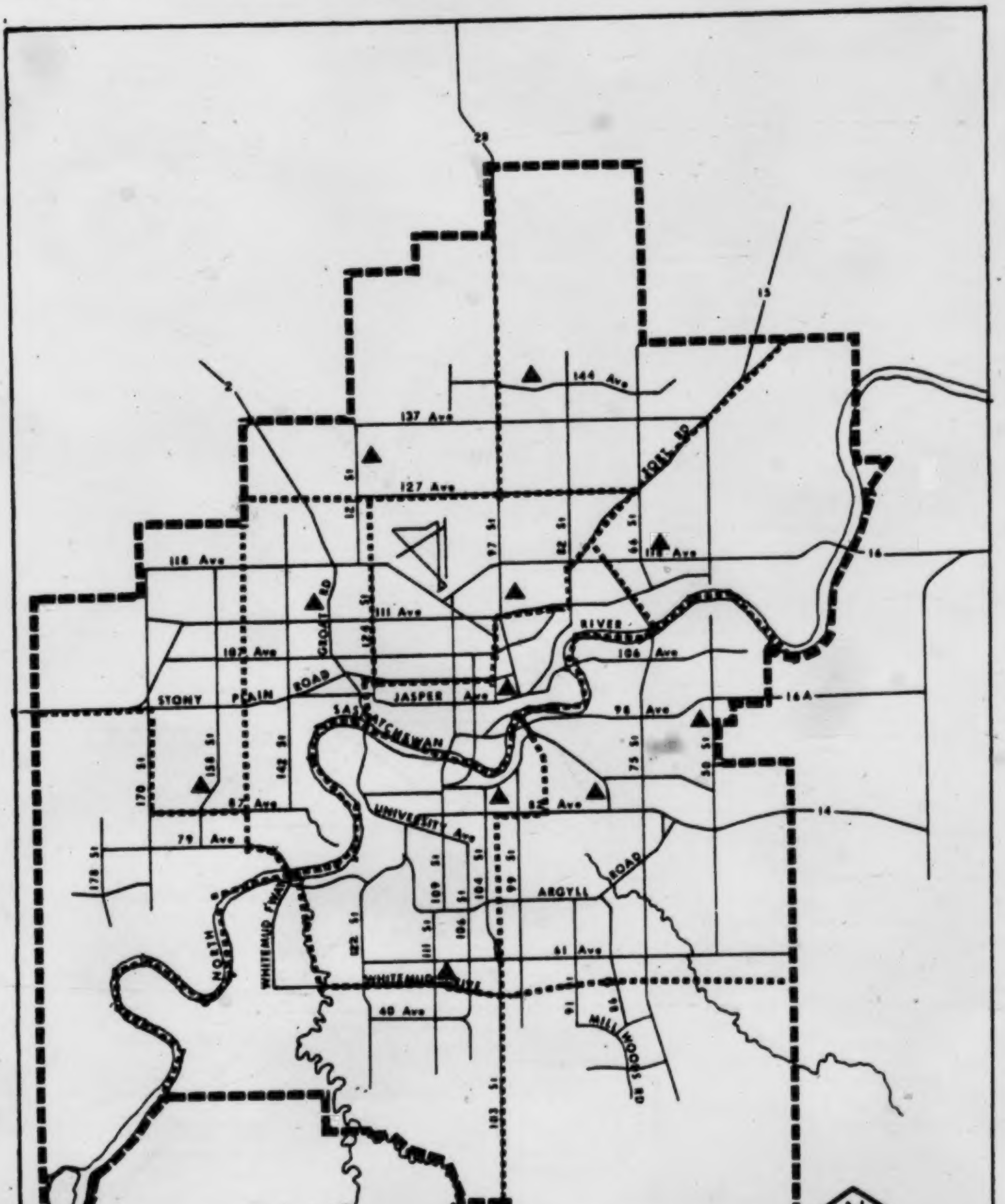
Presently, the City has been divided into twelve zones for the purpose of service delivery (Illustration I).

The new General Municipal Plan suggest libraries may be included in the future. (City of Edmonton G.M.P., 1980, p. 2). Little attention is focussed on the location within these districts at the moment, only overall ratios of people to facilities are being considered. The library system generally has one facility per Service Delivery Area even though it is not always located near the center of the area (see Illustration I).

This method for location of services is distributor, not user-oriented, and fails to take account the need for different types and locations of services among users.

The City of Edmonton's policy is to allocate its libraries on the overall population base of one branch library per 40,000 people (City of Edmonton General Municipal Plan, 1980 and City of

ILLUSTRATION 1. HUMAN SERVICE DELIVERY SYSTEM AND LIBRARIES


28
15
2
144 Ave
137 Ave
127 Ave
118 Ave
111 Ave
107 Ave
106 Ave
98 Ave
87 Ave
82 Ave
79 Ave
61 Ave
40 Ave
FORT RD
GROAT RD
RIVER
STONY PLAIN ROAD
JASPER Ave
SASKATCHEWAN
NORTH
UNIVERSITY Ave
WHITEMUD DRIVE
ARGYLL ROAD
MILL WOODS RD
178 St
170 St
156 St
142 St
127 St
122 St
109 St
106 St
104 St
103 St
111 St
99 St
97 St
91 St
82 St
75 St
66 St
50 St
16
16A
14
N
Service Area Boundary
Library
2 m.

Source: City of Edmonton L.P.P. 1982-86 p. 156.

Edmonton, L.P.P. 1982-86, p. 192). Furthermore, it assesses the effectiveness of the services in terms of average use rather than use-potential and disaggregated use measures. This, despite statements from a prominent Canadian librarian that in Canada "most planners recognize that large cities contain sections and regions which are totally different in character one from the other and ... district libraries should recognize and emphasize and distinctive, the needs of their particular area". (Campbell, 1973, p. 275).

According to library policy the criteria used for measuring its effectivness are:

> "for management and administration ...
>
> ... The library system's annual number of transactions per capita of the City's population.
>
> ... The number of registered borrowers in the City.
>
> ... The cost of library service per capita.
>
> ... The proportion of the budget spent on circulation materials for measuring public services and branches (branches are averaged over the city ...).
>
> ... Transaction load per hour.
>
> ... Transactions per man years.
>
> ... Cost per transaction. (City of Edmonton, L.P.P. 1982-86, p. 191).

It is apparent that these measures emphasize efficiency over equity, especially by averaging results over all branches. As long as the aim of the Edmonton Public Library is only couched in such economic terms there will never by any increase in use by present non-users. There is no mention of any aim to increase service only to decrease the cost per transaction. Measures other than the aggregative approach to library public service is needed so that other output measures can be used as indicators of effectiveness.

Within the library system in Edmonton at present there are 11 libraries, a main one located in the downtown area, ten branch libraries serving the city and 2 bookmobiles; one more opens at the end of 1981. On the surface this works out to be approximately 50,000 people each existing within a one to one-and-a-half mile radius of each branch. This is not always the case as some areas have no library within this distance from their residence while other areas have one relatively close (Illustration I). Some libraries serve a relatively small clientele while others draw from a wide area of the city and have a very large clientele, for example, Southgate. Are there any differences to be observed in the location and/or the socio-demographic composition of the population of areas surrounding libraries exhibiting dissimilar use patterns? Three years ago, the library board decided that if increased funding was not available, they would be forced to close the two least used libraries, Old Strathcona Library and Sprucewood Library (E.P.L. Board Minutes, 1977, p. 7). The library remained open because of increased funding and citizen protests. On the other hand, the Southgate Library continues to expand its user numbers until it has outgrown its space requirements and the Jasper Place Branch is also doing very well.

Development and Distribution of Libraries in Edmonton

The library system in Edmonton was established in 1909 but consisted of just two facilities for many years. The first permanent location in downtown Edmonton was set up in 1913, overlooking the North Saskatchewan River on 100th Avenue, and the other early one was Strathcona, formerly the Strathcona City Library before it was amalgamated with Edmonton in 1912. True branch libraries were first developed in 1952 and, therefore, have a very short history (Coburn, 1969, p. 5).

The general location of the Edmonton libraries has closely followed the development in popular types of shopping areas. The earliest two were located close to the "main-streets" of their respective cities, Edmonton and Strathcona, the early branches Spruce Wood, Calder, Highlands, Woodcroft, Jasper Place and Idylwylde, were located close to shopping strips or shopping centres, the latest ones Capilano, Southgate and Dickensfield are in the shopping centres themselves.

All of the libraries are located on relatively busy roads but usually are just slightly away from the peak travel or traffic areas. The main downtown library is probably an exception to this generalization as it is situated very near the peak rental district of Edmonton.

Site

Nowhere in Edmonton, unlike Britain, New Zealand and Australia, do you find sign posts pointing directions to the libraries and the signs on the buildings themselves are not overly conspicuous, marked as they are by an institutional looking blue neon sign very reminiscent of police station markings. The buildings themselves have evolved from free standing buildings, to shared facilities (with health clinics) near shopping centres to right in the shopping centres themselves. Individual buildings are not very inviting looking with few open to the street windows which would make one aware of their existence. The libraries in shopping centres and the main downtown library are exceptions to this generalization but the shopping centre branches are located in the least desirable parts of the centres, Southgate in the basement office area and Capilano in an upstairs office area.

It can be seen that physical accessibility and visibility is approximately equal for all except the downtown main library and possibly Southgate which is in a large regional shopping area. The strong visibility of the downtown library was borne out in the results of a question administered to 104 first year geography students at the University of Alberta, who were asked to draw and label a sketch map of the downtown of Edmonton. Sixty-one people or 58% identified the library as a landmark in the downtown area. (Student Survey, 1979). Apart from these two libraries, however, differences in use cannot be related easily to their site and situation.

The two libraries chosen for consideration are Spruce Wood branch and the Jasper Place branch. The Spruce Wood branch is the oldest branch, developed in 1953 (Coburn, 1969, p. 5) which is in a free-standing building with few windows, the usual blue sign, and is located just off the 118th Avenue shopping strip. It is the least used library in the Edmonton system and is located in a low income area. The Jasper Place Library is one of the slightly later branches (1961) located in a building shared with a health clinic, and is situated on a corner of the parking lot of Meadowlark Shopping Centre, a medium sized precinct. It is the best used of the true branch libraries and is located in a very high income area of the City. (Illus. 2).

Library Use in Edmonton

Present library memberships is 195,000 or 39% of the population in Edmonton and approximately 4.5 million items are circulated per year. This is an average of 10 books per person per year circulated or 20 per member. The membership may not be restricted to Edmonton, however, and may not be a very active one even though cards have to be renewed every five years. More important, however, is the fact that library

ILLUSTRATION 2

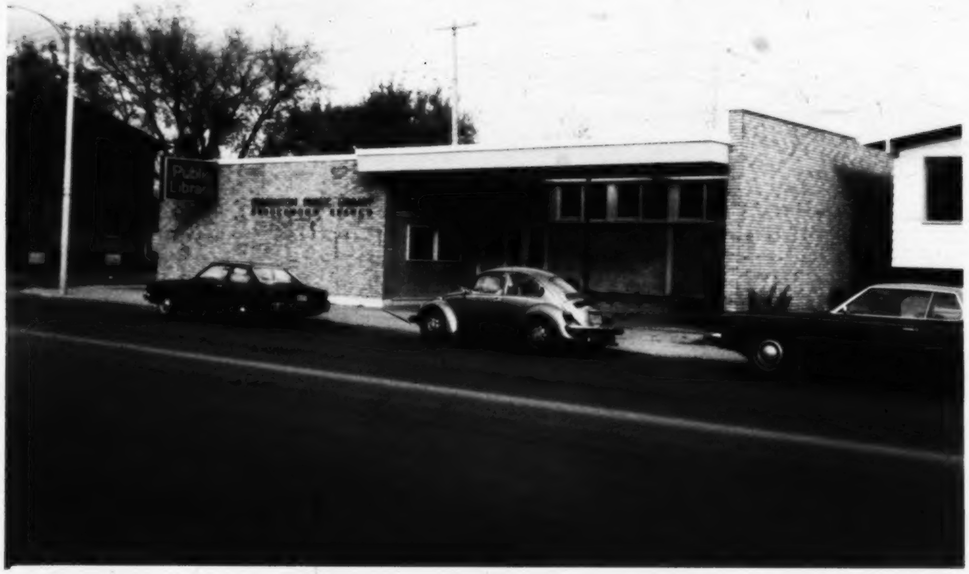
PHOTOGRAPHS OF JASPER PLACE AND SPRUCEWOOD BRANCH LIBRARIES

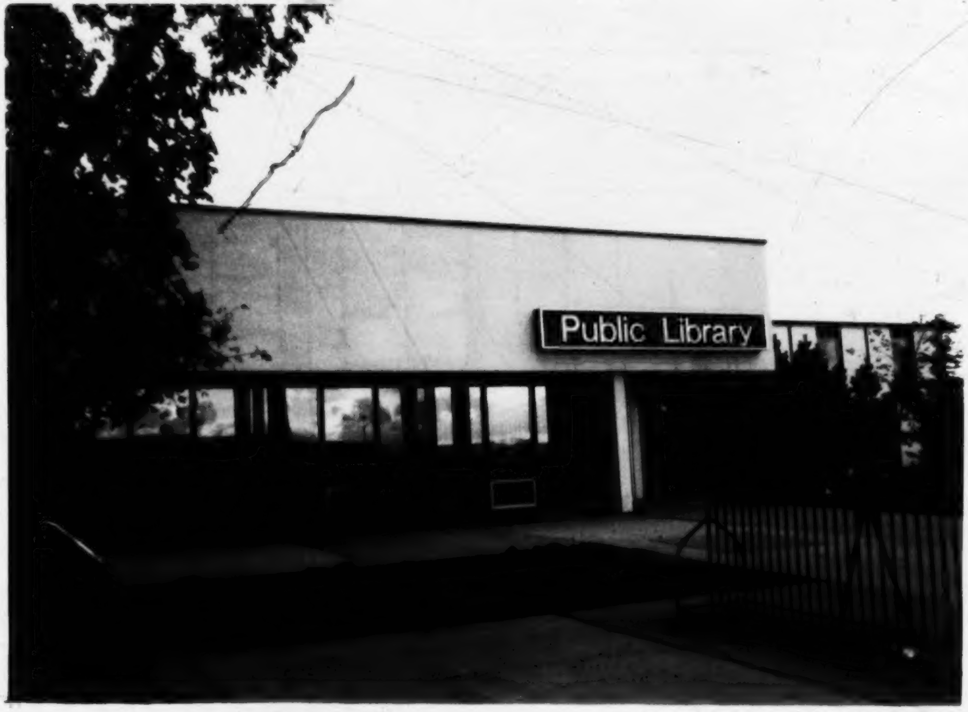
(TOP RIGHT)

JASPER PLACE BRANCH LIBRARY

(BOTTOM RIGHT)

SPRUCEWOOD BRANCH LIBRARY


Public
Library


Public Library

membership (and use) is not evenly spread throughout the city (Table 6).

In 1977, following a survey of the Branch libraries in Edmonton and in view of the tight funding situation that existed (the Province of Alberta contributed only $1.00 per capita towards library expenses at that time), the Edmonton Public Library Board recommended the closure of the two least used libraries of Strathcona and Sprucewood (E.P.L. Board Minutes, 1977 p. 6). The suggestion aroused some opposition from citizens in the neighbourhoods involved and groups of people called "friends of the ... library" were formed to help fight the idea. At the same time a beginning was made at reassessing the library's role in the Edmonton social structure. Attempts were made at finding alternate locations more akin to those of the better used libraries in or near major shopping centres. The board received ten letters in support of the idea of keeping the branches open in areas with few other intellectual, leisure time opportunities. Some made excellent suggestions for improving circulation, one in particular, suggesting use of books in languages other than English, and asking how many English speaking people consistently read books in another language (E.P.L. Board Minutes, 1977, pp. 41-48). The decision was taken to keep the poorly used branches open but reduce their hours of operation. The following year the numbers dropped even more and until recently little improvement has been made.

In 1980 provincial grants to municipal libraries were boosted to $3.00 per capita from $1.00 per capita. This increase brought

TABLE 6. BRANCH LIBRARY CIRCULATION 1980/81

BRANCH LIBRARIES	CIRCULATION	RANKING
CALDER		
Adult	14,362	9
Juvenile	9,383	8
TOTAL	23,745	9
CAPILANO		
Adult	44,684	4
Juvenile	21,277	7
TOTAL	65,961	5
DICKINSFIELD		
Adult	52,806	3
Juvenile	46,593	2
TOTAL	99,399	3
HIGHLANDS		
Adult	31,241	7
Juvenile	21,444	6
TOTAL	52,685	7
IDYLWYLDE		
Adult	42,189	5
Juvenile	25,172	4
TOTAL	67,361	4
JASPER PLACE		
Adult	80,246	2
Juvenile	37,204	3
TOTAL	117,450	2*
SOUTHGATE		
Adult	128,437	1
Juvenile	83,322	1
TOTAL	211,759	1
SPRUCEWOOD		
Adult	13,229	10
Juvenile	9,116	9
TOTAL	22,345	10*
STRATHCONA		
Adult	21,258	8
Juvenile	5,468	10
TOTAL	26,726	8
WOODCROFT		
Adult	40,840	6
Juvenile	23,611	5
TOTAL	64,451	6

(Source, E.P.L. Board Minutes, 1981 p. 313).

*Two libraries under study.

Alberta up from ninth to sixth out of the ten provinces in library grant levels (Edmonton Journal. April 9th, 1980 p. B 5). During 1981 the grant rose to $3.37 per capita (City of Edmonton, L.P.P. 1983-87: p. A 259). The increase in funding has allowed the branches to remain open but reduced hours remain. The five year projection for the Edmonton Public Library System from 1983-87 once again raises the prospect of having to close the Sprucewood branch and two others (City of Edmonton, L.P.P. 1983-87, p. A261).

Presently, the circulation statistics for Sprucewood are very low but did increase by 24% from 1979 to 1980 (E.P.L. Annual Report, 1980, p. 7 and E.P.L. Board Minutes, 1981, p. 315). The adult circulation figure for the two libraries under study is still, however, quite different.

TABLE 7. COMPARISON OF ADULT CIRCULATION FIGURES FOR SPRUCEWOOD AND JASPER PLACE BRANCHES

	1980	1981	% Increase
Sprucewood Branch	11,466	13,229	24.6%
Jasper Place Branch	73,609	80,246	9.0%

Source: Edmonton Public Library Annual Report 1980 P. 7 and Board Minutes 1981, p. 315.

Jasper Place has a far higher overall circulation and, therefore, a smaller pecentage increase can be expected. Hours of opening remain low for Sprucewood at 20 days a month while Jasper Place is open 25 days a months. (Table 8). Circulation figures

TABLE 8

HOURS OF OPENING OF SPRUCEWOOD AND JASPER PLACE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	TOTAL HOURS PER WEEK
Jasper Place	10 AM- 9 PM	10 AM- 9 PM	10 AM- 9 PM	10 AM- 6 PM	10 AM- 6 PM	10 AM-	CLOSED	60
Sprucewood	1 PM- 9 PM	10 AM- 6 PM	CLOSED	1 PM- 9 PM	10 AM- 6 PM	10 AM- 6 PM	CLOSED	40

Source: E.P.L. Board Minutes 1981 p. 316.

do not give a complete picture of the uses made of a library, but they are readily available in the absence of more detailed figures on actual attendance at a library.

The branch library survey of 1976 interviewed 125 people who were users of the Jasper Place Branch and 75 who used Sprucewood, the response rate was 94% at Jasper Place and 72% at Sprucewood. This fact illustrates that even among library users certain differences exist between the two areas which make it difficult to get survey responses in the Sprucewood area. Amongst patrons of branch libraries, more females than males used them, 72% female as opposed to 28% male. The pattern is different at the main library where 45% of the users were female and 55% male. Overall 19% of the users of branch libraries surveyed were students. The higher percentage of females at branch libraries could be related to the fact that females of childbearing age are often at home (nearer the branches) during the regular operating hours of the libraries. (E.P.L. Branch Library Survey, 1977, p. 11).

The Edmonton Public Library survey was limited to adult users of the library and the following table illustrates the ages of the sample users of the branches and the age distribution of the City as a whole for the year 1976.

TABLE 9. RESPONDENTS TO 1977 E.P.L. SURVEY
COMPARED TO CIVIC CENSUS FIGURES

Age	Sample %	City % (1976 Federal Census)
Under 20	16	39.5
20-39	42	37.5
40-59	20	10.5
60+	8	12.5
No Answer	14	0
TOTALS	100	100

(E.P.L. Branch Library Survey, 1977)

There is an underrepresentation of the over 40 year olds in the sample and it can be hypothesized that the majority of the library users in the 20-39 year old group belong to the younger age end of the group as this pattern would be consistent with findings about the age of participants in general leisure activities in Edmonton, Calgary and all of Canada where the main users of any leisure facility are under 29 years old (City of Edmonton, Parks and Recreation Leisure Survey, 1980, City of Calgary Leisure Survey, 1979 and Perspective Canada I I, 1981). Unfortunately the survey conducted by the Edmonton Public Library did not have any finer age breakdowns which may have confirmed this pattern.

Of the branches surveyed, Sprucewood had the highest percentage of users from outside the area, 21%, and it is difficult to state why this might be so. If the sample is representative of the total users of this branch, it means even less people from the area around Sprucewood use the library than appears at first. Even amongst users of the branches 29% expressed dissatisfaction with the hours of operating at Branch libraries, and in the open comment section 15% of the people interviewed from Sprucewood mentioned that they would like to see longer hours of opening. These comments were made even before the opening hours at Sprucewood were cut back. At Jasper Place branch only 2.3% expressed an interest in longer opening hours, a much smaller percentage indicating a possible cause of differences in use between Sprucewood branch and the Jasper Place branch.

Much earlier, in 1974, a survey of branch libraries of the Edmonton Public Library System had indicated the need for special services in the Sprucewood area. It was pointed out that the area needed to be studied and the branch adjusted to suit the community needs. The survey brought out that 12% (or 6,000 people) in the area had no education at all and another 22% (11,000) had only an elementary school education (E.P.L. Survey of Branch Libraries, 1974, p. 5). The last year (1980) has seen another push for greater community awareness in branch libraries such as Sprucewood and the result has been an increase of 24.6% in materials circulation in that area, and 23.7% in the system as a whole, while the population of the City of Edmonton only increased by 2.9% during the same period (E.P.L. Annual Report, 1980, p. 3). An increase of approximately 25% for Sprucewood still meant a circulation of only one sixth of that at the

Jasper Place Branch even though the population of the service areas of that Branch is 21% less (Sprucewood, 30,507, Jasper Place, 38,660, 1980 Civic Census).

CHAPTER 3

JASPER PLACE AND SPRUCEWOOD BRANCH LIBRARY SERVICE USE

The two libraries were chosen because they are the two most clearly diverse libraries in use, opening hours, book stock; they are also two very different areas socio-demographically.

The instrument used to measure socio-demographic characteristics is the 1971 Federal census. While this is ten years out of date it is the most recent instrument which has measured income for the whole City. The 1976 Federal census was a short form one and the Edmonton civic census never measures years of schooling, income nor ethnicity. However, the two areas under consideration are older areas that appear, when compared with current figures, to have remained fairly stable in their composition over the years (Table 10). Measures were taken of income, education and ethnicity from the 1971 Federal census.

In general the distributions show lower income and education groups to the centre and east of the downtown and the highest levels of both occurring to the south part of the city. High levels of non-Anglo-Saxon ethnicity occurs to the centre and the east while high levels of Anglo-Saxon ethnicity occurs to the southwest. One of the areas is situated in the central part of the city, the other towards the southwest.

The income measure used was the mean income of the household head as this is related to time (see page 25) more than the household income which can include income of working wives. If the income of the household head is low it can often necessitate wives working, lack of babysitting funds, doing ones own home repairs and other time consuming activities.

A median income is generally a more satisfactory measure for an area as it gives a better idea of the spread in incomes in an area by measuring the number of people above and below the middle income point. However, as this measure was not given in the 1971 Federal census for the household head it could not be used.

Measures of inequality for each Census Tract were determined by computing the difference between the average income of the household head and that for the City of Edmonton as a whole. Differences have been worked out as percentages and standard deviations. Education levels were treated in a similar way, while ethnic composition for the areas under study was taken from a study of community areas of Edmonton, done in 1978, which had already computed standard deviations for ethnic composition in communities in Edmonton (Davies, 1978, p. 185).

Study Area 1, Jasper Place (Illus. 3 and 4)

The Jasper Place Branch library is situated towards the western edge of the city with its eastern and southern edges marked by the North Saskatchewan River. The area is generally one of single family residences with areas of high cost housing on the south and east end and a fringe of high rise apartments on the southern and western edges of the area. Newer areas are developing to the west of the Jasper Place hinterland and as yet no branch libraries exist on the edge of the city beyond the Jasper

1

TABLE 10. COMPARISON OF FEDERAL CENSUS INFORMATION 1971 WITH 1976

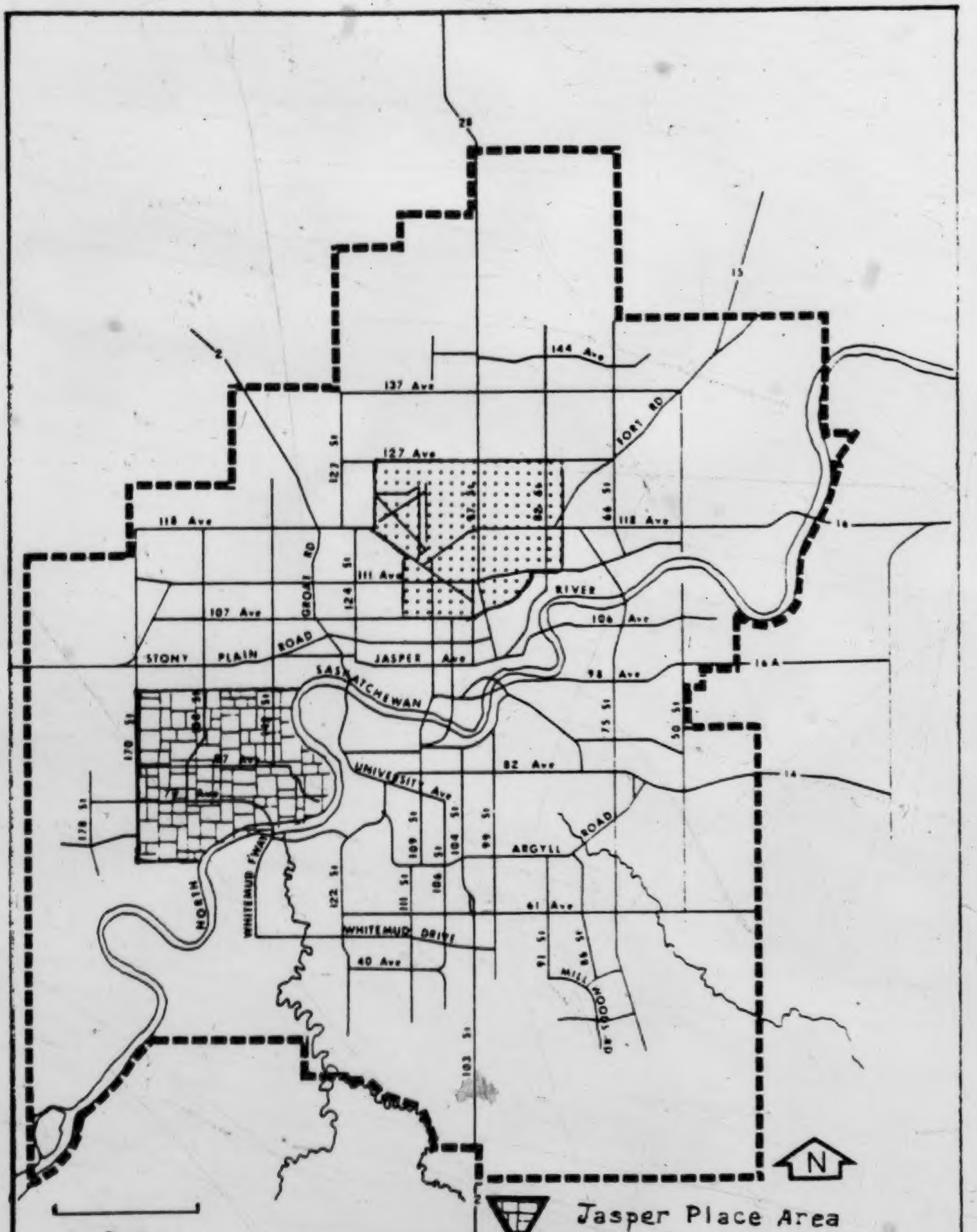
ETHNICITY°	JASPER PLACE 1971%	JASPER PLACE 1976%	CITY OF EDMONTON 1971%	CITY OF EDMONTON 1976%	SPRUCEWOOD 1971%	SPRUCEWOOD 1976%
English	96.3	84.5	92.6	78.1	84.8	65.3
French	1.3	2.5	1.4	3.0	1.5	2.7
German	1.1	3.2	1.8	3.8	.8	2.5
Italian	.1	.5	1.1	1.1	5.5	4.2
Ukrainian	.8	3.2	2.3	5.1	5.9	9.0
Other*	(.3)*	4.7	.8	6.5	(1.5)*	12.4
Not Stated*	-	1.4	-	2.3	-	3.9
	99.9	100.0	100.0	99.9	100.0	100.0
EDUCATION⁼						
Less than grade 5*		2.0		3.7		9.7
Grades 5-8	36.8	9.3	37.6	13.0	41.0	19.3
Grades 9-10	16.7	15.7	18.4	16.6	19.1	17.2
Grades 11-13	24.0	30.3	24.1	28.8	23.3	26.9
Non Univ. Post Secondary	8.7	20.3	8.1	19.7	8.8	16.0
Some University	6.8	10.0	6.1	8.9	4.9	6.8
University Degree	6.9	12.4	5.7	9.1	2.8	3.9
	99.9	100.0	100.0	99.8	99.9	99.8

*Not included in 1971 Census

°Language most often spoken at home in 1971; mother tongue in 1976

⁼Over five years in 1971; over 15 years and not attending school full time in 1976.

ILLUSTRATION 3. JASPER PLACE AND SPRUCEWOOD STUDY AREAS.


28
15
2
144 Ave
137 Ave
127 Ave
123 St
FORT RD
118 Ave
118 Ave
66 St
16
111 Ave
124 St
GROAT RD
107 Ave
RIVER
106 Ave
STONY PLAIN ROAD
JASPER Ave
SASKATCHEWAN
98 Ave
16A
170 St
87 Ave
75 St
50 St
UNIVERSITY Ave
82 Ave
14
178 St
109 St
104 St
99 St
ARGYLL
ROAD
122 St
111 St
106 St
61 Ave
NORTH
WHITEMUD DRIVE
40 Ave
91 St
MILL
103 St
N
2 m.
Jasper Place Area
Sprucewood Area

Source: Base Map, City of Edmonton, Planning Department.

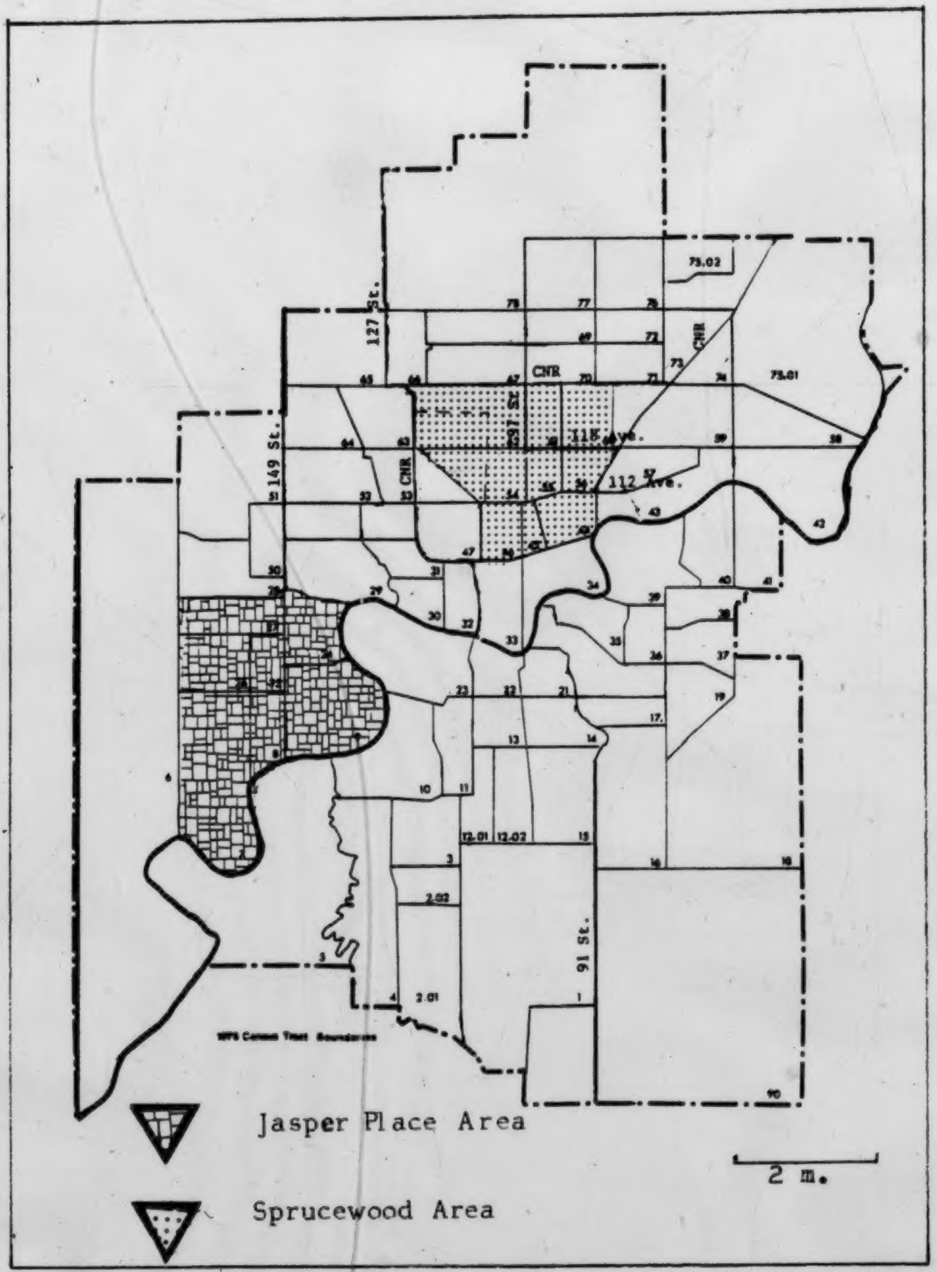
Place Branch. People in the newer areas beyond the one and a half mile limit probably are part of the Jasper Place user group because no other branches exist nearby. One is planned for the area in 1983 (City of Edmonton, L.P.P., 1982-86, p. 112).

A service area of approximately the same as was stated to be the ideal in the General Municipal Plan was used in the study. This was an area within a maximum of one and half miles of the library and containing 35-40,000 people within it (City of Edmonton, General Municipal Plan, 1981, Vol. II, p. 2). The area under study was within approximately a one mile radius of the Jasper Place branch, with the boundaries extended in places to follow the major barriers, which are also census tract boundaries, for example the river and major roadways.

Boundaries of the first study area are, 170th Street on the west: 100th Avenue on the north; the North Saskatchewan River Valley and 76th Street to the south and the river valley again to the east. It includes census tracts 7, 8, 9, 24, 25, 26 and 27 which according to the Civic Census for 1980 had a total population of 30,507. (Illus. 4).

The average income of the household heads in the area is $3,430 (or two standard deviations or 40%) above the mean for the City as a whole. Two of the tracts are three standard deviations above the mean, one is two above, two are one above and two are one below the mean. In particular census tracts 8, 9 and 24 are all extremely high income areas (see Table 11).

ILLUSTRATION 4. CENSUS TRACT AREAS AND STUDY AREAS.


127 St.
149 St.
CNR
CNR
CNR
118 Ave.
112 Ave.
91 St.
2 m.
Jasper Place Area
Sprucewood Area

Source: Base Map, Statistics Canada (1975)

TABLE 11

INCOME LEVELS IN SPRUCEWOOD AND JASPER PLACE

AREA	CENSUS TRACT	DIFFERENCE $	% DIFFERENCE	STANDARD DEVIATION
Jasper Place	7	+1,339.	+15.9	1
	8	+5,594.	+66.4	2
	9	+11,118.	+132.1	3
	24	+7,473.	+88.8	3
	25	-1,671.	-19.8	1
	27	-1,592	-18.9	1
Sprucewood	44	-2,900.	-34.4	1
	45	-3,776.	-44.9	2
	46	-2,722.	-32.3	1
	47	-1,980.	-23.5	1
	54	-1,491.	-17.7	1
	55	-3,014.	-35.8	1
	56	-2,783.	-33.1	1
	60	-2,362.	-28.1	1
	61	-2,843.	-33.8	1
	62	-2,573.	-30.6	1
City	All	8,418.	-	0

Source: Federal Census 1971

The education levels of the adults in the area as measured by percentage of the population with some university education, are above the city average in tracts 8, 9, 24 and 26. They are slightly below the average in 7 and 27 and in tract 25 there are considerably higher numbers than the City average of people with less than a grade 9 education. Overall, the area has 13.7% of the population with some University training compared with 11.8% for the whole of the City of Edmonton, and 36.8% with less than a grade 9 level compared with 37.6% for the whole city (Table 10).

The ethnic composition of the area in 1971 according to W. Davies, is predominantly British with two standard deviations above the mean of people of Jewish extraction, and with areas of high percentages of French origin people along the western edge of the area. Davies further categorizes the area as consisting of two main types, a suburban old fringe area on the west and an inner-city, high-status area along the river (Davies, in Smith, 1978, p. 189). As people of Jewish or French extraction are usually also speakers of English, language is not a major constraint to library use in the area.

The City of Edmonton, Parks and Recreation Department has divided the city up, by factor analysis, into six neighbourhood types (Appendix 1). Within this classification system the area has six neighbourhoods (community league areas), of the type five class which are categorized as being "middle-aged neighbourhoods with a high proportion of middle-aged couples with children between the ages of five and fourteen and with a high proportion of its population in professional occupations". Another four neighbourhoods are of type three which is similar to the above but have a lower percentage of people in the professional occupations. The remainder is split between two areas of a similar but younger type neighbourhood and two neighbourhoods which are older, with older or no children and high density dwellings (City of Edmonton, Parks and Recreation Department, 1979, pp. 26-9 and Appendix 1).

The Area Around Sprucewood Branch Library

The hinterland of the Sprucewood branch library is situated just north and slightly east of the central city in an older area, parts of which have been called the reception area of the city (Boyle-Street, McAuley Plan, 1980, and Davies, in Smith, 1978, p. 187). The boundaries of the second study area are within approximately one mile of the branch library, but extend to natural barriers and census tract boundaries such as the railway tracks. The boundaries are the CNR tracks to the north, 80 Street and CNR tracks to the east, 107/8th Avenue to the south and 101 Street jogging up to 116 Street near the airport on the west. Boundaries within this area are quite distinct, forming definite barriers to access on three sides. This fact can hinder any use of the library by people from outside its boundaries. It is also inner-city area and so has other branch libraries in the outer zone of the city which surrounds it on all sides. The area includes all of census tracts 44, 45, 46, 47, 54, 55, 56 and 61 and most of census tracts 60 and 62, the remainder of which is airport area. (Illus. 4).

Income levels for the area are generally low and included is the tract which had the lowest mean income for the household head, census tract 45. The remainder of the tracts are all one standard deviation below the city mean for the household head. The average income for the area is $2,644 below that of the City generally. The standard deviation measurement of income is not too successful a description of income differences in the City because the mean income of the household head across the City is skewed with several areas far above the mean while many are just below. For this reason the percentage difference between mean incomes is a better indicator of real differences (Table 11).

Education levels of the area are generally below the average for the City with six of the tracts with between 42.3% to 54.0% of the population having below a grade 9 education compared to 37.6% for the total City. Two tracts, 55 and 56 have only 4.5% and 3.5% respectively of their population with any University education and only 1.6% and .6% respectively (or 30 people out of 4,700) in tract 56 possess a University degree. Three of the tracts on the western edge have a higher than average education and one is about the same.

Education levels in the 1971 census were not broken down into the under grade nine levels so no comparisons could be made with the 1966 census results quoted earlier, which stated that in the service area of the Sprucewood branch, 12% of the population had no education at all and a further 22% had only an elementary school level (E.P.L. Branch Library Survey, 1974, p. 5).

Ethnic composition of the area is varied with more than two standard deviations above the norm of Ukrainian, Polish, Native, Italian and Asiatic people, and the largest group being of British descent (56%). The 1976 Federal census showed little difference in the mixed nature of the area, only the groups involved changed (Table 10).

The area east of 97 Street has been designated by Davies as a "non-affluent, ethnic area" and the northerly part of the area as a central city, non-family and migrant area (Davies, in Smith, 1978, p. 189) and these designations have been borne out in other studies of the area. The Boyle Street McAuley Report mentions the unusually high percentage of transients in that part of the area and the high ethnicity of the area.

The neighbourhood types in the area as described by the City of Edmonton, Parks and Recreation Master Plan, are mainly of type 1 older neighbourhood with many high density multiple dwelling units and type 2 older residential neighbourhood with older children or children who have left home, mixed single family and high density dwellings (Appendix 1).

Housing in the area varies from modest single family homes in the north to better single family residences on the western edge, walk up apartments along the main roads and toward the south-west and converted older dwellings housing several families toward the centre of the area. The south-eastern portion contains rooming houses and hostels. In all it is a mixed area typical of an older, inner city area, parts of which are in the zone of transition.

Methodology

The methodology of the thesis consists of outlining the purpose of libraries, using equity considerations to derive areas of special need for libraries, comparing a high need area with one of low need, comparing need and use as measured by circulation figures and survey questions and attempting to determine the underlying reasons for the use/non-use of the particular Edmonton branch libraries under consideration. Using the results, a model of library provision will be suggested which would better suit the needs of Edmonton's citizens.

The purpose of libraries was summed up as one of providing

education
information
cultural and leisure services.

The particular need areas in the city were, therefore, determined by an examination of factors associated with a lack of education, information and leisure opportunities:

income levels
education levels
ethnicity

Two areas with opposite characteristics were chosen for the study, one with high income; high education levels; low ethnicity levels and high levels of library usage. The other with low income; low education levels; high ethnicity and low levels of library use. Within the two areas reasons for the differences in library use were sought by studying constraints on use and looking at motivation factors which influence use.

Techniques

Because the Edmonton Public Library System has like other Canadian library systems, adopted a "Statement of Confidentiality" no access to circulation records, borrowers records or addresses can be obtained (Appendix 1). Statements of confidentiality have been adopted by certain library boards in order to protect the rights of individuals to privacy in their reading habits and beliefs. As a result the only information which can be obtained about library users in Edmonton is that which has been published by the Edmonton Public Library System which is often aggregated in nature, or that which is obtained by original research. The study consists of a multi-faceted approach to the problem of service use in the two areas previously described and uses secondary data, questionnaire data and time diaries.

Preliminary investigations included looking at the reading habits of Edmontonians and the relationship between book stock and circulation figures to see if these two factors would help explain the use or non-use of the two libraries under study in Edmonton.

Further correlations were run between circulation statistics, as an indicator of use, and hours of opening and socio-demographic characteristics of residents of the city. The hypothesis was that the strongest correlations would be between the socio-demographic factors and library use because of the constraints which accompany certain income, education or ethnic characteristics.

In an attempt to find out how important the particular constraint of lack of time is when weighed against other factors which reduce participation in leisure time activities, an analysis of survey data was done. The City of Edmonton, Parks and Recreation Department conducted a survey on leisure habits and preferences of Edmontonians in late 1980 and early 1981 and data obtained from this study has been used. Using 1980 civic census computer tapes for the City of Edmonton, a sample of 2,081 households was selected. The sampling unit was each member, over the age of 14 years, within the household. A stratified sample was chosen of approximately one hundred households within each of the neighbourhood types existing in a Parks and Recreation Department district (see Appendix 2). This sample size was based on a 95% confidence level and ± 10% error bound for each neighbourhood type. Within each of the neighbourhood types the sample was a random one. The survey was a drop-off and pick-up one with one call-back after a reminder note was left. A reward was offered for the completion of the questionnaires. Two tickets allowing free admission to a City-owned swimming pool and arena were given to each person who filled in the survey books. Cross-tabulations and significance tests were run on the results of the survey.

As a further examination of the influence of the time on library use, a random sample of people within the service areas of the branch libraries of Sprucewood and Jasper Place was chosen and time-space diaries were sent to them (Appendix 3). It was expected that by examining the time of their activities and the location of them something could be learned about why they did or did not use the library service outlet in their areas.

The sample was selected by delineating the boundaries of the service areas for each library; using the Edmonton Street Address Directory for 1980, to determine all the households within each boundary; and then counting them all (in households listing two telephone numbers only one was counted and all businesses in the area were missed out). From these figures the sample size was selected and randomly chosen from among the listed households. At first, it was planned to talk personally to each potential respondent while delivering the diary, but as few people were answering doors or wanted to talk, this idea was abandoned and a mailout of questionnaires was undertaken.

Time-space diaries were mailed out to 300 households, 150 from each of the study areas. With them was an explanatory letter and an authorization letter from the Geography Department at the University of Alberta. The diaries consisted of a seven day journal with the days marked off into hours. Headings were given for each days activities - mode of travel, place and comments such as secondary activities. The last sheet of the booklet was a brief questionnaire attempting to get answers on the motivations of respondents, asking if they did use libraries, and eliciting some socio-demographic information. The sampling unit is the individual but it was expected that information obtained from the diaries would give information about the whole household. The response rate for this type of a measuring instrument was expected to be low as previous research has documented the difficulty of obtaining such information (Anderson, 1971, p. 234). Follow-up telephone calls to non-respondents were used and a short list of questions were asked any person who was willing to answer. The questions were mainly the same as those attached to the time-space diaries but with the addition of specific questions about the convenience of libraries in their area (Appendix 3a).

Results

The overall response on the City of Edmonton, Parks and Recreation Department, Leisure Survey was 1,151 households of 2,255 individuals or a 55.8% response rate. This response rate was not equal throughout the City, however, with the Central district, or inner area of the City having a poor response rate despite call-backs. The responses received from the West District which includes the Jasper Place study area were 606, in the Central District, where the Sprucewood study area is, only 108 were received, or 54% and 25% respectively.

Response to the complete time-space diary part of the study, was even poorer than anticipated with only 30 replies or a 10% response rate being received. As a result it is very difficult to consider the results from this part of the study to be anything more than an indication of areas for further study. Follow-up telephone calls elicited a further 12% of the sample, or 36 people who were willing to answer the short questionnaire.

A comparison of all the branch libraries' circulation figures, hours of opening and book stock shows that Sprucewood ranks low on all factors while Jasper Place branch ranks relatively high on them all (Table 12). Spearman's rank order correlations on the relationship between the factors range from a low of .64 for book holdings correlated with circulation to a high of .92 for hours of opening correlated with circulation, but the hours of opening were cut back in 1977 because of low use (see p. 44) and these correlations were run subsequent to this happening. A correlation of over .76 is significant at the .01 level.

Results of Spearman's rank order correlations are as follows:

Adult circulation with holdings

$$r = 1 - \frac{6(60)}{10^3 - 10}$$

$$r = 1 - \frac{360}{999}$$

$$r = 1 - .363$$

$$r = 0.64$$

Juvenile circulation with holdings

$$r = 1 - \frac{6(57)}{10^3 - 10}$$

$$r = 1 - \frac{342}{990}$$

$$r = 1 - .345$$

$$r = .66$$

TABLE 12: CIRCULATION, HOURS OF OPENING AND HOLDINGS OF BRANCH LIBRARIES IN EDMONTON

BRANCH LIBRARY	ADULT CIRCULATION	RANK	JUVENILE CIRCULATION	RANK	TOTAL CIRCULATION	RANK	ANNUAL HOURS OPENING	RANK	HOLDINGS	RANK
Calder	14,362	9	9,383	8	23,745	9	2,080	9	24,799	10
Capilano	44,684	4	21,277	7	65,961	5	2,964	5.5	36,622	6
Dickinsfield	52,806	3	46,593	2	99,399	3	2,964	5.5	30,116	8
Highlands	31,241	7	21,444	6	52,685	7	2,964	5.5	41,512	5
Idylwylde	42,189	5	25,172	4	67,361	4	3,120	2.5	41,867	3
Jasper Place	80,246	2	37,204	3	117,450	2	3,120	2.5	41,827	4
Southgate	128,437	1	83,322	1	211,759	1	3,224	1	49,426	1
Sprucewood	13,229	10	9,116	9	22,345	10	2,080	9	25,358	9
Strathcona	21,258	8	5,468	10	26,726	8	2,080	9	35,067	7
Woodcroft	40,840	6	23,611	5	64,451	6	2,964	5.5	43,511	2

(Source: E.P.L. Branch Library Survey 1977, and
Board Minutes, 1981)

Total circulation with holdings

$$r = 1 - \frac{6(54)}{10^3 - 10}$$

$$r = 1 - \frac{324}{990}$$

$$r = 1 - .327$$

$$r = .67$$

None of the correlations is significant at the .01 level and only relate to less than 70% of the use. The total number of holdings, if not quality does not appear to explain the use or non use of particular libraries. The hours of opening correlations are higher:

Adult circulation with hours of opening

$$r = 1 - \frac{6(21.5)}{10^3 - 10}$$

$$r = 1 - \frac{129}{990}$$

$$r = 1 - .13$$

$$r = .87$$

Juvenile circulation with hours of opening

$$r = 1 - \frac{6(19.6)}{10^3 - 10}$$

$$r = 1 - .118$$

$$r = .88$$

Total circulation with hours of opening

$$r = 1 - \frac{6(13.5)}{10^3 - 10}$$

$$r = 1 - \frac{81}{990}$$

$$r = 1 - .081$$

$$r = .92$$

These correlations are high but as previously stated the hours are low because use of the branch was low, and they were cut because of this lack of use.[1] This factor cannot, therefore, be taken to mean a causative relationship exists between hours of opening and use.

When data on the socio-economic variables of the residents in the service areas around each branch library were correlated with circulation figures the results were variable (Table 13).

Income correlated with use show only fair correlations with juvenile circulation but higher correlations with adult and total circulation which are significant at the .01 level.

Adult circulation with income:

$$r = 1 - \frac{6(18)}{10^3 - 10}$$

$$r = 1 - \frac{108}{990}$$

$$r = 1 - .109$$

$$r = .89$$

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[1] Use dropped even further, however, after the hours were cut, until this last year 1980 when they increased by 24%. (E.P.L. Board Minutes, 1981, p. 315). A statement in the Board Minutes of 1977 indicates the thinking on this. It states that while the time was cut by 39% the drop in use at Sprucewood was 33.4% or proportionately less, therefore time of opening was not felt to be an important factor. (E.P.L. Board Minutes, 1977, p. 12).

TABLE 13 CIRCULATION, INCOME[*], EDUCATION[o] AND ETHNICITY[=] LEVELS IN BRANCH LIBRARY SERVICE AREAS

BRANCH	ADULT CIRCULATION	RANK	JUVENILE CIRCULATION	RANK	TOTAL CIRCULATION	RANK	INCOME	RANK	EDUCATION	RANK	ETHNICITY	RANK
Calder	14,362	9	9,383	8	23,745	9	-764	8	5.1	10	90%	7
Capilano	44,684	4	21,277	7	65,961	5	+1,273	3	10.7	7	95%	1.5
Dickinsfield	52,806	3	46,593	2	99,399	3	+473	4	11.5	5	91%	6
Highlands	31,241	7	21,444	6	52,685	7	-1,174	9	6.3	9	89%	8.5
Idylwylde	42,189	5	25,172	4	67,361	4	-658	7	11.0	6	93%	4.5
Jasper Place	80.246	2	37,204	3	117,450	2	+3,183	1	13.7	3	95%	1.5
Southgate	128,437	1	83,322	1	211,759	1	+3,070	2	18.2	2	94%	3
Sprucewood	13,229	10	9,116	9	22,345	10	-2,762	10	8.3	8	80%	10
Strathcona	21,258	8	5,468	10	26,726	8	-488	6	25.3	1	89%	8.5
Woodcroft	40,840	6	23,611	5	64,451	6	-451	5	12.5	4	93%	4.5

Sources: E.P.L. Board Minutes 1981, 1971 Federal Census.

[*] Income levels were computed by determining the difference between the mean income of household head for city, and mean income of household head for census tracts within approximately one mile of branch library.

[o] Education levels were computed by determining the percentage of people with some university training in the census tracts within approximately one mile of branch library.

[=] Ethnicity levels were computed by determining the percentage of people who spoke English at home, in the census tracts within approximately one mile of branch library.

Juvenile circulation with income:

$$r = 1 - \frac{6(60)}{10^3 - 10}$$

$$r = 1 - \frac{360}{990}$$

$$r = 1 - .36$$

$$r - .64$$

Total circulation with income:

$$r = 1 - \frac{6(26)}{10^3 - 10}$$

$$r = 1 - \frac{156}{990}$$

$$r = 1 - .157$$

$$r = .84$$

The percentages of English speaking people was used to measure the ethnicity levels of the service areas of branch libraries and the results show only a medium level of correlation with adult circulation and total circulation, and ethnicity, but juvenile circulation was non-significant.

Adult circulation with ethnicity levels:

$$r = 1 - \frac{6(34)}{10^3 - 10}$$

$$r = 1 - \frac{204}{990}$$

$$r = 1 - .206$$

$$r - .79$$

Juvenile circulation with ethnicity levels:

$$r = 1 - \frac{6(46)}{10^3-10}$$

$$r = 1 - \frac{276}{990}$$

$$r = 1 - .278$$

$$r = .72$$

Total circulation with ethnicity levels:

$$r = 1 - \frac{6(34.5)}{10^3-10}$$

$$r = 1 - \frac{207}{990}$$

$$r = 1 - .209$$

$$r = .79$$

Education levels with circulation figures show surprisingly low correlations.

Adult circulation with education:

$$r = 1 - \frac{6(78)}{10^3-10}$$

$$r = 1 - \frac{468}{990}$$

$$r = 1 - .47$$

$$r = .53$$

Juvenile circulation with education:

$$r = 1 - \frac{6(109)}{10^3-10}$$

$$r = 1 - \frac{654}{990}$$

$r = 1 - .66$

$r = .34$

Total circulation with education:

$$r = 1 - \frac{6(76)}{10^3-10}$$

$$r = 1 - \frac{456}{990}$$

$r = 1 - .46$

$r = .54$

The problem area is Strathcona which ranks first in level of education, being adjacent to the University, but only eighth in total book circulation. One of the tracts within this area, tract 23, has approximately 50% of its population possessing some University training. It may be hypothesized that many people in the area use the University library facilities more than their local branch of the public library, others may use the much larger, regional type library at Southgate where their service area overlaps that of Strathcona on the southern edge. If Strathcona is omitted from the list of branch libraries, all correlations are significant and the rankings are as follows:

Adult circulation with education:

$$r = 1 - \frac{6(20)}{9^3-9}$$

$$r = 1 - \frac{120}{720}$$

$r = 1 - .166$

$r = .83$

Juvenile circulation with education:

$$r = 1 - \frac{6(20}{9^3-9}$$

$$r = 1 - \frac{120}{720}$$

$$r = 1 - .166$$

$$r = .83$$

Total circulation with education:

$$r = 1 - \frac{6(18)}{9^3-9}$$

$$r = 1 - \frac{108}{720}$$

$$r = 1 - .15$$

$$r = .85$$

Although the correlations are high, it seems other factors are involved to some degree in the use/non-use of branch libraries. There are relationships between the measured factors, for example, income and education are often closely related, and so a degree of homogeneity between the amount of correlation would be expected.

City of Edmonton Leisure Survey Results

In an attempt to determine if amounts of leisure time, and leisure time habits influence use, the results of the City of Edmonton, Leisure Survey were analyzed to determine if obvious differences exist between different areas of the city or different sub-groups in the population.

An examination of the reading habits of Edmontonians shows that 28% of the respondents to the survey have not read a book within the last twelve months, and 9% have not read a newspaper or magazine. No significant differences were found between percentages run by occupation, neighbourhood type or marital status, with the exception that the "other" category had an extremely high proportion, 24%, who never read a newspaper or magazine. If anything the Central district residents appear to read more. However, with the total Central sample only being 108 people, the variation between cells is not significant. It would only need 6 people to produce the 5.6% who read more than 30 hours per week, for example (Table 14).

Overall, from the results of the leisure survey is appears that reading habits vary little from area to area of the city but television viewing does, and this 'at home' passive activity must use up leisure time. Central district has a slightly higher percentage who never watch, possibly because of no television set, and also a much higher percentage than the West district or than the City as a whole, who watch over 30 hours a week.[2] Once again care must be taken with these figures because of the under representation of the Central district (Table 14).

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[2] Feldheim and Javeau 1977, p. 222 have pointed out that in a multi-country, time survey "the amount of equipment" (above all TV sets) plays an important role in behavior".
Coates et. al. mention the fact that working class people in Birmingham spend their leisure time at or near home (Coates et. al., 1977, p. 72), and in Canada over 15 hours a week spent watching television is common among low income people (Perspective Canada II, 1977, p. 141).

TABLE 14: FREQUENCY OF READING AND TELEVISION VIEWING BY DISTRICT

	READING BOOKS			READING NEWSPAPERS AND MAGAZINES			WATCHING TELEVISION		
FREQUENCY	CENTRAL DISTRICT	WEST DISTRICT	EDMONTON	CENTRAL DISTRICT	WEST DISTRICT	EDMONTON	CENTRAL DISTRICT	WEST DISTRICT	EDMONTON
Never	23.8	29.0	28.3	10.2	9.9	9.1	4.6	2.4	2.9
3 hours per week	24.8	21.1	22.5	31.5	37.3	36.7	17.4	10.3	11.5
3-7 hours per week	25.7	28.5	26.8	36.1	34.5	34.3	20.2	30.5	26.0
8-14 hours per week	11.4	14.6	12.0	14.8	12.0	11.9	21.1	26.9	29.2
15-29 hours per week	8.6	4.7	4.4	3.7	3.6	3.6	16.5	21.2	21.0
30 + hours per week	5.6	2.2	2.7	3.7	2.6	2.0	20.2	8.6	9.3
Missing Responses			3.2			2.6			
TOTAL	100.0	100.1	100.0	100.0	99.9	100.2	100.0	99.9	99.9

Total numbers central district = 108 respondents
west district = 606 respondents
city = 1,151 respondents

Source: City of Edmonton Leisure Survey 1980/81.

The question on time as a factor in reduction of participation in Arts and Cultural Activities (Appendix III), also shows little variation between districts or neighbourhood types with all responses showing between 23.5% and 29.8% of the people feeling lack of time was not important while 21.8 - 25.5% felt it was of great importance (Table 15). Of all the participation reduction factors, however, lack of time was the most important one mentioned with 33% feeling it was fairly important or of great importance. The midpoint on the scale in this survey was not necessarily a neutral point as it was labelled "of some importance". This makes it difficult to know what to do with these responses, but as it is worded it does seem that most people would have considered "of some importance" to mean that it was an inhibiting factor. If this figure is included it makes 62% who felt it was an important factor in reducing their participation in Arts and Cultural Activities.

Other extrinsic factors, or environmental constraints followed closely after lack of time as a factor, too many family obligations, and cost both figured highly as factors which reduced participation. As actual cost is not involved in library use, only in reading if books are bought, this is not of too great importance in this study.

Occupational status had quite an influence on whether or not lack of time was felt to be important with students feeling it was of most importance, followed by full time workers and then part-time workers. It was of least importance to the unemployed and retired as might be expected (Table 16).

TABLE 15 IMPORTANCE OF TIME BY NEIGHBOURHOOD TYPE*

IMPORTANCE OF TIME	NEIGHBOURHOOD TYPE						CITY TOTAL
	1	2	3	4	5	6	%
Not important	29.1	27.6	26.1	23.5	24.2	29.8	26.7
Little importance	10.9	13.1	10.9	11.4	5.6	10.7	10.3
Some importance	24.2	22.2	22.8	24.8	29.4	22.4	24.3
Fairly important	13.9	13.6	14.7	14.8	18.2	14.1	14.9
Great importance	21.8	23.6	25.5	25.5	22.5	22.9	23.6
Total	99.9	100.1	100.0	100.1	99.9	99.9	99.8

*City of Edmonton, Parks and Recreation Master Plan (Appendix 1).

Source: City of Edmonton, Leisure Survey 1980/81.

TABLE 16 IMPORTANCE OF TIME BY EMPLOYMENT STATUS

IMPORTANCE OF TIME	EMPLOYMENT STATUS						
	Student	Homemaker	Part time Worker	Full Time Worker	Retired	Unemployed	Other
Not important	14.8	33.3	25.2	26.0	73.7	40.0	42.4
Little importance	9.7	12.2	13.2	10.7	3.5	26.7	6.1
Some importance	22.7	27.4	25.8	23.9	12.3	26.7	27.3
Fairly important	20.3	11.8	13.2	14.9	1.8	0.0	12.1
Great importance	32.4	15.2	22.6	24.5	8.8	6.7	12.1
Total	99.9	99.9	100.0	100.0	100.1	100.1	100.0

Source: City of Edmonton, Leisure Survey, 1980/81.

Overall, while television viewing showed some variation between different areas of the City, little variation was seen in reading habits or in number of people who perceived themselves to be constrained by a shortage of time. Time shortage was mentioned to be a factor in reducing participation in arts and cultural activities, more often than any other factor. It was seen to be especially important to certain groups of people, students and full time workers. The related "too many family obligations" category could be grouped with "lack of time" category as it represents one aspect of time demands. The percentage of people who perceive themselves to be constrained in their behavior, by demands on their time, is then quite high - 56%. The location factor, per se, was not seen to be of as great an importance to people. If location is seen as the "spatial aspect" of time, however, it must have significance, if the time factor does (Thrift, 1977, p. 421).

Space/Time Diary Response

Space-time diaries were studied to focus in on how much leisure time is available to different groups of people, and if people grouped in a high library use area, Jasper Place, have available different amounts of disposable or discretionary time than do people living in a low library use area, Sprucewood. As stated previously, the overall response rate was low at 10%; 12% for Jasper Place area and 8% for the Sprucewood area. The household sampling unit, represented 69 people, thirty-six in Sprucewood, an average of 3 persons per household, and thirty-three in the Jasper Place area, an average of 1.6 persons per household.

Of the respondents 10 had library cards; 18 did not and 2 gave no answer to the question on whether they had a card (Table 17). These two were from the Sprucewood area and it can be assumed that if people did not reply to whether they had a card, they probably did not as it is not a personal question such as income, or housing tenure. The telephone calls produced a higher percentage who did not own cards, 71% in Jasper Place and 83% in Sprucewood did not.

Of the card holders, one-half responded incorrectly to the questions of where the nearest library was located (Table 18). The two incorrect responses from the Sprucewood area mentioned the downtown, main library. These responses are correct for the people concerned as the responses come from the southern edge of the area, and the question asked for location of nearest library, not nearest branch library. The incorrect responses from the Jasper Place area were a little more diverse. One mentioned the downtown, main branch and two others mentioned the Westmount branch library as being the closest one. One of these responses came from a lady who does volunteer work at Westmount, which in part explains her choice, and Westmount branch is the next closest branch for those people who reside on the northern edge of the service area. Similar results were obtained over the telephone with sixty-two percent of the card holders not correctly identifying the nearest library.

The thirty households replying to the questionnaire contained representatives of each of the education categories and all but the lowest of the income categories. Many respondents objected

Table 17

LIBRARY CARD OWNERSHIP AND RESPONSE RATES TO SPACE/TIME DIARIES

AREA	HAS LIBRARY CARD	%	NO LIBRARY CARD*	%	NO ANSWER	%	TOTAL RESPONSE	%	RESPONSE RATE
Jasper Place	6	33	12	66	0	0	18	99	12%
Sprucewood	4	33	6	50	2	17	12	100	8%
Total	10	33	18	60	2	7	30	100	10%

*1 person in each area stated they did not have a card, but had used the library within the past year.

Table 18

KNOWLEDGE OF NEAREST LIBRARY LOCATION BY CARD OWNERSHIP (DIARIES)

	HAS CARD			NO CARD*			
AREA	CORRECT LOCATION	INCORRECT LOCATION	NO ANSWER	CORRECT LOCATION	INCORRECT LOCATION	DON'T KNOW	TOTAL
Jasper Place	3	3	0	3	6	3	18
Sprucewood	2	2	0	4	4	0	12
Total	5	5	0	7	10	3	30

*Includes those who did not answer question of possession of library card.

to the income question and so the results are unreliable (Table 19). Comments on this question ranged from general indications of income "it is high" to this is "an unethical question". Little difference overall, was seen between the income distributions of the two areas, but in education Jasper Place had people with a University degree, while the Sprucewood area had none.

The telephone survey also had a poor response to the income level question with 42% refusing to answer. Income was generally more evenly distributed and education again showed higher numbers with a University degree but no difference at the less than grade nine level. Some of these responses appear to have resulted from taking education outside of Canada and not being able to translate to the equivalent level here.

Age groups of the households responding to the time budget and to the telephone survey part, were well represented in each category, and the comparison between the age breakdown for each area and the sample age breakdown is close except for the larger numbers of older people and larger numbers of females than males replying (Table 20).

It could be because of the nature of the time-space diaries that more retired people with extra amounts of free time responded to it. These responses increased the average amount of free time available to people in their respective areas. It also indicated the accompanying problems and commitments of the elderly. Doctors' visits showed up on four time diaries, and "not feeling well" or "using a breathing machine" was a time consumer for two others.

TABLE 19

SAMPLES USE OF LIBRARY BY EDUCATION AND INCOME*

CATEGORY	USES LIBRARY		DOES NOT USE LIBRARY	
	SPRUCEWOOD	JASPER PLACE	SPRUCEWOOD	JASPER PLACE
EDUCATION				
Less Than Grade 9			34%	33%
Grade 9-12	66%	23%	32%	33%
Some Post Secondary	33%	43%	33%	33%
University Degree	0	34%	0	0
No Answer	-	-	-	-
INCOME				
Less Than 10,000				
10,000 - 20,000	33%	28%	32%	50%
20,000 - 30,000	17%	26%	10%	0
30,000 - 40,000	0	21%	0	0
40,000 +	0	0	10%	0
No Answer	50%	35%	48%	50%

*Includes Telephone and Time/Space Diary Respondents.

TABLE 20 AGE/SEX BREAKDOWN OF SAMPLE AND POPULATION

AGE	JASPER PLACE AREA		JASPER PLACE SAMPLE		SPRUCEWOOD AREA		SPRUCEWOOD SAMPLE	
	% MALE	% FEMALE	% MALE	% FEMALE	% MALE	% FEMALE	% MALE	% FEMALE
UNDER 4	2.4	2.2	1.4	2.7	2.6	2.3	1.3	2.7
5-14 YEARS OLD	6.2	6.1	4.1	4.1	4.7	3.9	6.8	5.4
15-24 YEARS OLD	13.0	11.9	8.2	11.0	13.3	13.6	5.4	4.0
25-39 YEARS OLD	10.6	10.1	6.8	8.2	16.4	11.8	12.2	16.2
40-64 YEARS OLD	14.1	15.4	9.6	19.2	10.6	9.7	13.5	20.3
65 +	3.5	4.5	11.0	13.7	4.9	6.0	4.0	8.1
TOTAL	49.8	50.2	41.1	58.9	52.5	47.3	43.2	56.7

These health factors reduce the ability of the elderly to gain access to library service outlets, although the particular individuals concerned could not be classified as "shut-ins" eligible for the special services available to those groups.

One person in the Sprucewood area was a nurse/housewife/mother, who worked the night shift and who slept in short periods scattered throughout the day. She ended up with virtually no true leisure time except on her days off. This lifestyle drastically reduced her ability to couple with a library although she mentioned that she would be interested in using it.

Overall, the average amount of leisure time for working people and housewives was only 3 to 4 hours per day, generally during the 7-7:30 PM to 10 or 11 PM time slot. This period is when the branch libraries are closed. In family situations this time is spent mainly at home, possibly because of the need for babysitters if the respondents went out. The retired people often had a two hour free period during the afternoons as well, while afternoons for housewives were generally spent shopping or visiting relatives and friends. Over 60% of such visits were "obligation" type visits, such as visits to sick relatives and friends, condolence calls, visits to parents and even counselling type calls.

Differences did occur in how the non-working hours were spent. Six of the twelve diaries from Sprucewood residents mentioned working in the garden or on minor house repairs as part of their activities. It is possible that their activities are necessary for the economic well-being or to supply the basic needs of people in the area. Only three of the responses from the Jasper Place area mentioned such activities, (17% as opposed to 50%). When these activities were separated from the other leisure time activities, the average amount of available time to residents of the Sprucewood area dropped to two hours per day as opposed to three hours.

The time constraints on both groups of people are marginally different, but the small sample size makes it difficult to generalize from the findings. Little difference was seen between those who have access to a car and those who do not appear to. Motivational constraint differences show up in the gardening and home repair activities of the Sprucewood respondents who choose to take this time cost so as not to lose the opportunity cost of supplementing their income (Becker, 1965, p.47; Thrift, 1977, p. 420).

The motivational factor of belonging needs shows up in the relationship between use of library and the fact that one's friends use them (Table 21). In the total sample 60% of the respondents who use libraries, have friends who also use them. This percentage is higher in the Sprucewood area than in the Jasper Place area. A further 10% of users of the public library, use them at work or at school, where their worth as job-development tools, and hence wage earning aids, has been recognized.

Far greater differences between areas was discerned from the personal telephone calls and discussions, than appeared from the time-space diaries. Within the Sprucewood area 70% of the calls were to people exhibiting some difficulty with the English language. This difficulty ranged from having to call their children to the telephone to translate, to minor difficulty understanding the

TABLE 21 SOCIAL INFLUENCE/BELONGING MOTIVATIONS BY LIBRARY USE*

RESPONDENTS WHO USE LIBRARIES

BRANCH LIBRARY	FRIENDS USE		FRIENDS DO NOT USE		DO USE AT WORK		DO NOT USE AT WORK	
	No.	%	No.	%	No.	%	No.	%
SPRUCEWOOD	17	68	8	32	1	4	24	96
JASPER PLACE	22	54	19	46	7	17	34	83
BOTH	39	59	27	41	8	12	58	88

*Time/Space Diary & Telephone Respondents questions being asked of them. Within the Jasper Place area only 5% had difficulty with the English language.

Of the people who could speak English well enough to understand the questions, the comments on the public library were, generally, very negative. Eighty percent of them to the effect that the respondents "did not need them" or "had not used them since school". Fifteen percent stated that they were "too busy to use them". Many elderly people were encountered in the Sprucewood area and these were generally nervous about speaking to strangers and many of them stated that they were unable to use libraries because of sick spouses, or ill health themselves. In other words they suffered from what has been called capability constraints (Thrift, 1977, p. 429).

Summary

Neither book stock of the branches nor reading habits of individuals appear to influence the use of libraries. Taken individually, income and education correlate moderately highly with circulation statistics while ethnicity across the city also only shows a moderate correlation. However, in looking at the social composition of the two areas the most outstanding difference appears to be the high concentration in Sprucewood of ethnic groups whose mother tongue is not English and the high concentration of low income groups. It may be that these two factors are interrelated if the area is seen as a "reception area" from which people in higher income groups go when they become "assimilated". On the other hand it could mean that the high relationship would be with low income/high ethnic groups and library use. Amounts of disposable time was stated to be an important activity reduction factor throughout all groups while the diaries showed only marginal differences between amounts of time available. This marginal difference could be enough, combined with the accompanying motivational restrictions, to deter people from using libraries. Certainly, hours of opening and library use, as measured by circulation statistics, correlates highly (even though it is known that hours were cut because of low use, it is also known that use dropped a further 33.4% after they were cut). Taken all together, the two areas do exhibit distinct differences in socio-demographic characteristics and a concentration on community area analysis to help improve library services appears justified.

CHAPTER 4

A MODEL OF SERVICE PROVISION

> There once was a nation of two hundred million people (twenty-two million?) that was the most powerful country in all the world. At the national level, the inhabitants were very rich, but at the local level they often turned out to be quite poor. And, as luck would have it, they all lived at the local level" (Nation's Cities, August, 1967).

In considering reasons for non-use of branch libraries, patterns were seen to be strongly related to the socio-demographic nature of the community they serve and because this is the case it has been suggested that there is nothing that can be done by library systems to alter the situation (Coughlin, Taieb and Stevens, 1972, pp. 129, 154). Others have stated that because of costs and because of the innate inertia of the service structure, even though the distribution of libraries is "unfair to certain groups", it cannot be easily changed (Freeman, 1965, pp. 11, 272). Both of these opinions may be correct, because as yet the question of whether library use would increase if better services were provided in certain areas, is a hypothetical one (Coughlin, Taieb and Stevens, 1972, p. 26). Any attempt that is made at improving service would necessarily have to begin at the community level as this is the level where socio-demographic variations occur (Tiebout, in Heilbrun, 1971, p. 344).

The thesis so far has adopted the periplokoscience approach *[3] and conceded that values enters into the subject of libraries, and has spelled out the particular ideology it has adopted, that libraries have a value, particularly for certain groups with limited access to other educational and leisure resources, and that equal outputs (or use) should be the goal of libraries rather than equal inputs ot time, money or effort. The next step in the process should be the solution of the problem of non-use. Specifically, this involves looking at the research results and suggesting ways of overcoming the participation reduction factors indicated there. In other words the research model narrows down from the broad social context to the precise problem and solution, as illustrated below.

FIGURE 2: THESIS OUTLINE

Statement of Problem, Geography and Philosophy
General Purpose of Libraries
Need and Use in Edmonton
Specific Determinants of Need and Use
Access, Constraints and Motivations
Solutions

This thesis suggests that there are links between socio-demographic variables and library use and these are at least in part, related to the shortage of time that exists for certain groups of people, and the inability of the groups to see the library as being useful in helping to satisfy lower level needs, given pressures of time obligations. The effect of these inhibiting factors can be reduced, but an unequal amount of effort and funding is required to bring it about. In particular, the suggested steps in the solution process are as follows:

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*[3] Periplokoscience is the approach which looks at science as part of a larger world which includes ideologies and values (Smith and Ng, 1981, p. 4).

1. The goals of the Edmonton Public Library System must reflect the different needs of different areas. Needs of areas will have to be measured in an objective manner before achievement of goals can be measured (Coughlin, Taieb and Stevens, 1972, p. 19).
2. The library system must be integrated into an overall planning sysem so that locational strategies can tie in with those of other services.
3. The diverse socio-demographic nature of different areas of the City needs to be examined. The areas examined must of necessity be smaller than the present branch library service areas, so that a high degreee of homogeneity can be obtained within them.[4] When this is done, areas of high need can be identified.
4. Internal organization of the library system needs to be changed in order to respond to the requirements of high need areas. It **could** be set up on a hierarchical system to allow the lower levels of the hierarchy to become more flexible in

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[4] McColvin has suggested that the service area should cover just one "natural grouping" of people. This may be difficult, but it certainly makes it easier to provide the required service for the patrons. (McColvin, 1970, p. 118).

its approach to servicing community needs.

5. New methods of service delivery need to be explored to help reduce costs to the system, and to help lessen user constraints, when setting up a community level service.
6. Library policies must be readjusted to take into account community character when choosing materials or staff and when advertising so that awareness of, and motivation to use the library increases.

Number one of these points is an internal policy issue that can only be resolved by policy makers. Numbers two to five are related to service delivery while the **sixth** is more of a library science problem and so will only be dealt with very briefly.

Library System Planning

One of the first requirements of a system plan for library **location from the researcher's perspective, would be its intergration into one of the** City of Edmonton's overall planning departments. The most likely area would be to combine it with the Parks and Recreation Department, particularly now that it has taken over partial responsibility for Culture, by establishing a new "Parks, Recreation and Cultural Advisory Board." To combine the two areas of libraries and parks and recreation would require changes to the Provincial legislation in the Municipal Government Act, Libraries Act and Planning Act. Detroit has had success in hiring a full-time library planner, whose job it is to determine present and future library needs and to plan for them (Bowler, 1964, p. 259). If systematic planning for libraries was done, methods of providing services which meet the needs of people could be explored and some cost-cutting achieved by other means than by the practice of scale-economies (Coughlin, Taieb and Stevens, 1972, p. 3).

While economies of scale are important in library service, it has been pointed out that there are assumptions, implicit in the theory of economies of scale, which point up their disadvantages. They are:

1. Large organizations lead to a feeling of isolation.
2. Large units suggest fewer units, hence, travel problems (Massam, 1975, p.42).

Meier has gone even further and suggested that the failure of libraries to serve those who need them, is attributable to the practice of scale-economies which has caused libraries to lose contact with their service areas (Meier, 1962, p. 80). In fact it appears that more contact with the local community is needed to ensure that the particular needs of the area are being met.

Need Area Definition

If, as other studies have found, most of the variation in circulation figures or patronage of libraries can be explained by differences in the characteristics of local residents in the service areas, some analysis of the nature of service areas is needed (Coughlin, Taieb and Stevens, 1972, p. 39 and Wheeler, 1962, p. 25).

The most important physical constraint on use of libraries as postulated in this thesis is the lack of time possessed by people, especially low income groups. The most important motivational constraint has been stated to be one which accompanies lack of time in low income areas, the drive to fulfill lower level needs first when priorities in use of time are made. If this is the case a simple ranking of areas of the City according to need can be devised by using income distributions, to map areas requiring extra inputs from the library system and society in general.

Multiplication of low income indices by low education, by high ethnicity indices can give a simple indication of need areas, with high scores indicating low need and low scores, high need:

$$8(a) \times 6(b) \times - 7(c)$$

Where a = the difference between the mean for the City and the mean of the local area in income level.

b = the difference between the mean for the City and the mean of the local area in education level.

c = the difference between the mean for the City and the mean of the local area in ethnicity level.

The educational level can be determined by measurement of the difference between the percentage of people with under grade 6 education, and the percentage of people with some University training. Once need areas are established a system for delivering the special services necessary in certain areas is needed.

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[5] While the lack of time factor has not been conclusively proven to be a valid cause of non-use, certain definite differences do exist in the socio-demographic make-up of the areas. These socio-demographic factors are significantly correlated to lack of use. (see pp. 67-70).

Hierarchy of Libraries

Many services in the City of Edmonton are presently set up on a hierarchical system.[6] The Parks and Recreation Department, sets up its facilities on a system of City-level developments; regional level developments; district level developments and neighbourhood level developments. The number of services offered, rises as the level increases and there are differences in the types of services offered at the various levels, as the purpose of each level is different (City of Edmonton, Parks and Recreation Dept., 1978, p. 96). Retail services are set up on a similar pattern with neighbourhood corner or convenience stores, neighbourhood shopping centres, regional shopping centres and the downtown, retail core (Johnson, in Smith, 1978, p. 63).

A rudimentary, hierarchical structure may be evolving without any specific planning in the Edmonton library system. Southgate branch library is beginning to assume the role of a regional library, perhaps as a result of its association with a large regional shopping centre, and other differences in levels of service may follow (Siegal, Personal Interview, 1981 and Ironside, in Smith, 1978, p. 247). A planned approach to the development of the hierarchy could result in more efficient and effective service provision.

A hierarchical system would eliminate the need for all services to be carried at all levels in the system, and would allow a flexible approach to be adopted at the neighbourhood or lowest level of the system. Good neighbourhood analysis would determine the special needs of the local area and the service policy of the library outlet could be adjusted accordingly.

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[6] A hierarchical system is defined here as one containing various ranks, each of which exist inside the service area of the next highest rank in a nesting arrangement (Carter, 1981, pp. 62, 106).

Many writers have advocated providing special services in certain areas; Elkin thought extra services should be provided to "disadvantaged groups" but did not specify how or what; Gans felt that in the main, libraries should be geared toward service to children, the elderly, and the illiterate, with the downtown or main branch oriented toward business and information functions; Davies advocated temporarily oversupplying areas of under-utilization of services, so that consumer awareness of their existence would increase (Elkin, in Conant, 1972, p. 227; Gans, 1968, p. 71; Davies in Massam, 1975, p. 46).

The following suggestions for a hierarchy of libraries in Edmonton is derived from many sources: Systems used in other places; guidelines developed by library planners; planning area outlines used in the City of Edmonton at present. From these sources and the present size and structure of the City, the following hierarchy is proposed.

1. At the top level of the hierarchy will be the downtown or main library which serves a City-wide function and carries specialized reference materials on a wide range of subjects. It also would remain open long hours for the convenience of working people and students.

2. Under it would be regional libraries serving approximately 120,000 people and which would serve as reference libraries for those people who are unable to go to the downtown library and whose needs are not as specific. Long hours of opening are, also, associated with this level of library service. A guideline of between 48 and 66 hours a week has been suggested for this level of library (Bowler, 1964, p. 260). Southgate, at present, is open 60 hours a week.
3. Under the regional level libraries would be district level, or sometimes called community level branches, serving approximately 30,000 people. Some guidelines suggest up to 55,000 at this level, but given the present size of Edmonton, the lower level seems more appropriate (Bowler, 1964, p. 260 and Campbell, 1973, p. 273).
4. Within the districts, sub-branches or neighbourhood level outlets would exist and would serve between 8,000 to 10,000 people. At this level a considerable degree of differentiation between branches could occur. Various ideas have been expressed as to what this level of outlet could emphasize, but included have been, primarily containing popular adult books; primarily serving children; emphasizing community records, information and news; primarily serving the elderly (Coughlin, Taieb and Stevens, 1972, p. 12; Bowler, 1964, p. 260; Campbell, 1973, p. 273). The exact nature of the outlet would depend on the needs of the area as determined by an analysis of the socio-demographic composition of the area.

Having an outlet at the neighbourhood level would help eliminate much of the travelling time involved in the use of libraries and would enable the librarian to attune the advertising for the outlet, to the particular population group that it serves. It does not, however, completely eliminate problems. There remains problems of access because of limited service outlet resources; funding problems; changes in neighbourhood composition; and some problems of time causing inability to couple with the service centre remain (Nystuen, 1967, p. 6).

Present funding levels will not permit longer opening hours to accomodate time constrained people, nor will it allow local library outlets to carry a wide selection of materials. Because of this, access to certain library resources will still not exist for people who are limited to the use of one library outlet, generally lower income people according to Coughlin (Coughlin, Taieb and Stevens, 1972, p. 151). The use of innovative ideas at the local level can help reduce costs and expand service to the poorly served groups in society. By focussing interest on the library system, innovative ideas, in themselves, often result in greater use and better funding (Brown, 1971, p. 1). Innovative ideas can be grouped into:

1. Ideas to reduce cost of library buildings.
2. Ideas which make resources from other branches available to all branches.
3. Ideas for new delivery methods.

Reducing Building Costs

At the lowest level of service, the local level, where neighbourhood identity has its own life cycle and buildings reflect this changing pattern, the library outlet can be inexpensive and flexible in location (Smith, 1978, p. 119). There are various methods of achieving this end, among them: sharing of premises; renting premises, including operating out of "store-front" locations and mobile locations.

These alternatives are unpopular with many library personnel, at present. The need for specialized space requirements is the reason most often cited for not readily accepting these sites. The literature search indicated that this method of service delivery is unacceptable because of an "edifice complex" possessed by many library administrators (Freeman and Co., 1965, p. 272). This criticism is not a new one as Dr. Adams in 1913 suggested that service given by the Carnegie libraries in Britain would be improved if it was more interested in "books not bricks" (Olle, 1967, p. 54). If small branches were adopted by E.P.L. to serve more as an access point to the system than a storage place, then perhaps many of the specialized requirements would be not necessary.

Premises could be shared on a part time or full time basis with such things as leisure centres, schools and community halls. Small collections can be placed in pool complexes, elderly and teen drop-in centres, and day care facilities (Hill, 1973, p. 49

Jordan, 1970, p. 80; Nyquist in Carnovsky, 1968, p. 87).

The advantage of such facilities is the fact that costs are lowered while customers are shared. Because libraries are used as a secondary activity, the result is a lessening of the costs to the patrons. As public libraries are generally used during leisure time, it seems appropriate that their location could be integrated in other leisure time facilities.

In Edmonton the Mill Woods Leisure Centre, presently under construction, will temporarily house a branch of the public library. The Edmonton Public Library administration does not favour the idea, and is only willing to use the facility until a new building is built for the library. The West Jasper Place Citizen's Committee has asked the public library to locate the proposed new West Jasper Place Branch in the planned leisure centre for the area, but the idea has not been favourably received by the library administration (see p. 39). This reluctance does not appear to be a matter of specialized space requirements as the opportunity exists to design the special needs into the building, at this point in the planning process. It appears, instead, a traditional approach of locating near or within a shopping centre is preferred (Wheeler, 1962, p. 45; Bowler, 1970, p. 267). Findings by some other researchers indicate that no relationship exists between level of shopping centre and degree of use (Coughlin, Taieb and Stevens, 1972, p. 51). For many, shopping is an obligatory activity that only occurs during non-work time.

For these segments of the population outlets located near other leisure activities facilities may encourage use.

The rental costs of premises can be allowed as tax exempt under the provisions of the Libraries Act, Part 7, and can be of many forms; temporary locations in new or vacated warehouses; empty church buildings and other buildings in process of changes in land use as neighbourhoods undergo changes in their life cycle. One of the more often used type of rented location, has been the old, empty store, in which "store-front" libraries have been set up. Advantates of these outlets, beyond the cost, include visibility; non-institutional looks; and corner-store locational advantages - close to the community served. One operated briefly in Edmonton but it was outside the Edmonton public library system and funded by special grants in the Boyle St. - McAulley area. The funding was discontinued and the library closed without it having time to really be tested.

The mobile library is a third type of low overhead library outlet. It has generally been used to provide service in new areas which have not yet grown large enough to support a permanent library, and has often been considered to be an inferior service provider in that they provide no permanent presence in a community and the collection is severly limited because of the size of the mobile units (Eastwood, 1967, p. 84, Jordan, 1970, p. 82). Edmonton presently has two large book trailers which provide larger than usual mobile premises in new areas but do have problems with parking which limits their function as "mobile" units. The need for mobile units would be lessened if other forms of rented or shared facilities were utilized, but they could still have a place on the fringe of the service areas of the small local libraries. Their main disadvantage is that they do not provide immediate access to the resources of other branches.

Providing Access to Resources of the Total Library System

With a computerized system access is available to the resources of the total library system from any fixed location if the system is set up to handle it. The Edmonton public library is on a computerized system but the infrastructure to handle requests on a frequent basis does not exist. If many points are to be served without depleting the resources of any one library, a distribution and warehousing centre is necessary. This centre **could** eliminate the need for large stocks of books at the local levels of the hierarchy. This idea has been used elsewhere, and was proposed for part of the Provincial library network outlined in the Downey report, but never implemented (Downey, 1970, p. 4; Jordan, 1970, p. 144).

New Delivery Systems

Various methods of access to services have been suggested which do not require direct, face to face contact at a service outlet. Instead, telephone ordering of books, mail ordering and delivery and eventually direct access via a computer will eliminate the constraints of coupling with a given service at set times (Jordan, 1970, p. 144). These direct access systems all require the services of the distribution and warehousing centre mentioned in the previous page.

The utilization of a direct access method of service delivery would necessitage a change in charge out methods, in effect the elimination of one of the "authority **constraints**" which restrict borrowing to those people possessing library cards. (Thrift, 1977, p. 429).

The idea of direct access via computer located within people's homes is not so far away. Already the Canadian Telidon system is used by businesses to gain access to information (Alberta Library News, 10: 2, p. 13). At present, programmes for the system are mainly oriented toward educational and business information, but ultimately many library information sources could be available this way. These resources could be conveniently reached from people's own homes.

Conclusion Based on Research and Literature Review

An integrated system of planning is required which recognizes the constraints people have on their time. The system would allow various levels and types of outlets to suit the diverse needs of the population it attempts to serve. The top two levels (pp. 105-106) could remain as they are, but the lowest levels would become access points and specialized outlets catering to patrons whose needs have been analyzed by developing neighbourhood demographic profiles.

Hours of opening would become more flexible to accommodate people whose leisure hours are between 7 p.m. and 10 p.m. and on Sunday afternoons. Direct access via telephone, mail or computer to a central warehouse could be available for those people who will still find it difficult to couple with locally situated branch outlets. By these methods the local units can remain small and community responsive but economies of scale can be utilized because they are part of a complete system which centralizes many of its functions.

CHAPTER 5

CONCLUSION: EQUITY AND EDMONTON'S LIBRARIES

"An equitable environment with an isotropic plane of choice"
(Thrift, 1977, p. 432)

Locational variations in use of library services do exist in Edmonton, with the Sprucewood branch used very little and the Jasper Place branch, very well used. In seeking to determine the reasons for the differences in patronage in the two areas, environmental and motivational constraints on behaviour were examined. Differences in site, situation and building design are minor; bookholdings, education and income individually correlate moderately with use patterns; book and newspaper readership show little variation, therefore, any one of these factors can be eliminated as being the single causal factor of non-use behaviour. The two areas are quite distinct socio-economically and demographically, and so the intervening variable, time constraint was examined in relation to use in the belief that "the spatial dimension of time is the need of access" in particular, access to libraries (Thrift, 1977, p. 421).

For the poor the use of leisure time in using libraries often result in an opportunity cost of loss of income, as seemed to be indicted in the diaries by the number of people engaging in gardening and home repair activities (Becker, 1965, p. 47). This opportunity cost can result in a lessened motivation to use the library.

Limitations of Data

The thesis, in dealing with library service use, covered a very wide field which has geographical, psychological, cultural, sociological and library science facets to it. As such, the work has been preliminary and exploratory in nature.

Time constraints were seen to be important to all groups in the City but especially so to full time workers and students. Little difference was seen between the different areas of the City under study. Because of the poor response rate to the time/space diaries comparisons between the Sprucewood and the Jasper Place area residents' availability of time could not be made with any degree of reliability. Indications of different use of leisure time by Sprucewood residents in that more time was spent by them in income supplementing activities was obtained. **Intimations that** that other capability constraints were in operation in the Sprucewood area were gained; old age, sickness, shift work and very severe language difficulties operated in the area. In the total sample, analysis of time availability showed that most people were only able to "couple" with a leisure time facility like a library on the hours that the library is closed or when family obligations kept the respondents at home. A general lack of interest in the library was expressed which goes beyond just time limitations, and which needs to be explored in more detail.

Future Research

Motivational differences and what they arise from should be explored in more detail. The effect of staff, advertising and book selection will obviously play a part in how the library "sells" itself to its potential patrons. Further research is needed into how the library can be promoted to increase awareness of its potential as an aid to increasing the knowledge and ability of its users, and hence to increase their economic earning potential. Other attitudinal and motivational factors relating to library use could be explored in conjunction with the development of a library advertising programme. Possible changes in library service to conform to the preference for "at-home" leisure activities could be explored by the library profession.

Very obvious benefits to geographers could be gained from having the Edmonton Public Library System loosen its Confidentiality Statement to allow research into location of card holders and actual library use. A thorough spatial analysis of the service areas of each branch library could be made without compromising individual privacy. From this research, indications as to the different distances travelled by various socio-economic groups could be determined; peak hours and days of use by various groups of patrons could be studies, and the perceptions of users/non-users on the accessibility of their local branch library needs to be explored in more detail. Further work is needed on the effects of attitudes, travel modes, complementary activities, site attractiveness and situation convenience on potential users of local branches.

The time/space aspect of library use also needs to be researched further. A possible method is by the self-reporting technique, where people are interviewed at periods and asked to recall their activities. While this method has been criticized as being inaccurate because it is based on memory, it may have the advantage of yielding a better response rate. A better response rate would yield predictive insights into the daily behaviour of certain groups of people, and their activities over space and time can be analysed to find out when and where bunching of activities occurs. The site and time that is utilized by most people is the ideal site and time at which to provide a service. From this research optimum sites for branch library locations, and optimum sites for branch library locations, and optimum hours of operation could be determined.

The most important further research needed is into developing a service strategy for the library system based upon what best suits the needs of potential patrons and to do this, detailed research into the socio-demographic nature of the service areas of each existing and proposed branch outlet must be carried out. Further areas such as influence of age, family structure and occupation need to be explored. In this way, it can be ensured that the needs of all of the diverse areas of the city are being met so that each citizen has an equal opportunity to use library services.

Conclusion

A library system structure which will provide the most equitable access by providing an isotropic plane of choice to all potential users, will be one which:

1. Relieves coupling constraints by:
    a. taking the services "to the people via mobile and

neighbourhood centres" (Nyquist, 1968, p. 87).

b. taking services to the people when they are needed by relaxing the "artificial time dimension" (Lynch, 1972, p. 74).

2. Relieves capability constraints by:

    a. offering services via direct access systems of mail or delivery for those who cannot utilize existing outlets.

    b. offering services in people's own language and at their own educational and cultural level (Nyquist, 1968, p.87).

3. Relieves authority constraints by:

    2. going out into the community to make library cards easily available to the people.

In effect, by developing a flexible and multi-dimensional service approach, **the Edmonton Public Library System could lessen the constraints on use which are more stringent for some segments of the City's population than for others.**

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APPENDIX 1

CONFIDENTIALITY STATEMENT*

It is the policy of the Edmonton Public Library Board to safeguard the confidentiality of transactions between the Library and its patrons.

The choice of books and other library materials, and the use of the informational resources of the library, are matters of private concern and therefore the library shall make every reasonable effort to ensure that information about patrons and their choices remains confidential. In this way, the public can make full and effective use of library resources with the sure knowledge that no others will know the books they read, the material they use and the questions they ask.

The Edmonton Public Library Board will endeavour to ensure that no information will be disclosed to third parties regarding, but not limited to:

1. A patron's name.
2. A patron's address.
3. A patron's telephone number.
4. Whether a person is a registered borrower or has been a patron.
5. The library's circulation records and their contents.
6. The library borrower's records and their contents.
7. The number or character of questions asked by a patron.

The foregoing is subject to the following:

- any lawful orders of the court:
- established procedures for recovering library property;
- the rights of parents and guardians respecting minors;
- the Edmonton Public library is not responsible for unauthorized release of information.

Source: E.P.L. Board Minutes, 1980.

APPENDIX 2

CITY OF EDMONTON, NEIGHBOURHOOD TYPES*

NEIGHBOURHOOD TYPE 1 - an older neighbourhood with a high proportion of people between the ages of 15 and 24 and over 55. This neighbourhood has many high density multiple dwelling units occupied by young singles, young couples with either no children or very young children, and older persons.

NEIGHBOURHOOD TYPE 2 - an older residential neighbourhood with a high proportion of middle-aged and elderly couples with older children or children who have left home. This neighbourhood has a high proportion of both single family dwellings and high density multiple dwellings.

NEIGHBOURHOOD TYPE 3 - a middle-aged neighbourhood with a high proportion of couples between the ages of 35 and 54 and children between the ages of 5 and 14. This neighbourhood has a high proportion of single-family dwellings.

NEIGHBOURHOOD TYPE 4 - a younger to middle-aged neighbourhood with a high proportion of married couples ranging from 25 to 34 years of age. There is a high proportion of children under the age of 14 and a high proportion of single family dwellings.

NEIGHBOURHOOD TYPE 5 - a middle-aged neighbourhood with a high proportion of middle-aged couples with children between 5 and 14. This neighbourhood is similar to Neighbourhood Type 3 except that Neighbourhood Type 5 has a higher proportion of its population in professional occupations.

NEIGHBOURHOOD TYPE 6 - a newly developing neighbourhood with a high proportion of young couples with very young children. The housing is mainly single-family with some single attached and multiple-family dwellings. Because these are new neighbourhoods, detailed demographic data is not available for them.

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* City of Edmonton, Parks and Recreation, Master Plan 1979-83.

APPENDIX 3

TIME/SPACE DIARY*

* reduced in size for binding.

My name is LYNFA JONES and I am a University student writing a thesis about why libraries in Edmonton are used by some people and not by others. Reasons for this could be related to the amount of spare time that people have and when they have the spare time, and it could be related to the location of libraries and their hours of opening. To see if this is the case I am asking two hundred households to keep diaries of their activities and where they do them. I can then look at where the libraries are and when they are open to see if this influences who uses them and who does not.

I would appreciate you writing in all the detailed comments you can about your activities including such things as where you work, whether or not you work shift work or do seasonal work, how you travel to work and shop and how long the travelling takes. If you find that you cannot completely fill in the diary, I would still appreciate receiving what you have done.

Thankyou very much for your help with this study and if you have any questions about it, you can contact me in the evenings at 462-3770

I will collect the diary on ______________________________

If you will not be at home please leave it in the mail box, thankyou.

POOR COPY
COPIE DE QUALITEE INFERIEURE

ACTIVITY	PLACE
6:00 A.M.	
6:30	
7:00	
7:30	
8:00	
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30 P.M.	
1:00	
1:30	
2:00	
2:30	
3:00	
3:30	
4:00	
4:30	
5:00	
5:30	
6:00	
6:30	
7:00	
7:30	
8:00	
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	

METHOD OF TRAVEL, eg. BUS, CAR	COMMENTS: eg. Did you two things at the same time.

Thank you for keeping the diary, now could you answer a few questions:

1. Do you have a library card? (Please check (✓) one)

Yes _____ No _____

2. When was the last time you used a public library? (Please check (✓) one)

Within the last week _____
Within the last month _____
Within the last year _____
More than a year ago _____
Never _____

3. Do you ever have to use a library at work or school? (Please check (✓) one)

Yes _____ No _____

4. How many of your friends do you know use a library regularly? (Please check (✓) one)

More than five (5) _____
2 - 4 _____
1 _____
None _____

5. Do you know where your nearest library is? (Please check (✓) one)

Yes _____ No _____

Name of Library (or approximate address) ____________________________________
____

As the amount of time available and whether you find the library useful to you can be related to your age, number of children, education and job, I would appreciate it if you would fill out some details about yourself. All replies will be kept confidential.

6. What is your level of education? (Please check (✓) one)

Less than grade 9 _____
Grade 9 - 12 _____
Some post-secondary education (e.g. University or N.A.I.T) _____
University Degree _____

The following two questions should be filled in by one person only for each family.

7. How many people are there in your family and what are their ages?

AGE	NUMBER OF MALES	NUMBER OF FEMALES
Under school age		
6 - 14 years		
15 - 24 years		
25 - 39 years		
40 - 64 years		
Over 65 years		

8. Which income group is your family in? (Include all pay coming into the family).

Less than $10,000 per year _____
$10,000 - $20,000 per year _____
$20,000 - $30,000 per year _____
$30,000 - $40,000 per year _____
Over $40,000 per year _____

APPENDIX 3a.

FOLLOW-UP TELEPHONE SURVEY

Follow-up Telephone Survey

Thank you for keeping the diary, now could you answer a few questions:

1. Do you have a library card? (Please check (✓) one)

2. When was the last time you used a public library? (Please check (✓) one)

   Within the last month ______
   Within the last month ______
   Within the last year ______
   More than a year ago ______
   Never ______

3. Do you ever have to use a library at work or school? (Please check (✓) one)

   Yes ______ No __No__

4. How many of your friends do you know use a library regularly? (Please check (✓) one)

   More than five (5) ______
   2-4 ______
   1 ______
   None ______

5. Do you know where your nearest library is? (Please check (✓) one)

   Yes ______ No ______

   Name of Library (or approximate address) ______________________

   ____

6. Do you find the library convenient to go to?

   1. Yes
   2. No
   7. Don't know
   8. No answer

7. Where would you like to see it located?

1. Near where you shop
2. Near community Centre
3. Other
7. Don't know
8. No answer

8. How do you travel. (If woman in day?)

1. By car
2. By Transit
3. Walk
7. Don't know
8. No answer

9. When would you have free time to go there (read out time slots?)

1. Weekdays - Morning
2. - Afternoon
3. - Evening
4. - Saturday
5. - Sunday
7. Don't know
8. No answer.

10. What is your level of education? (Please check ( ) one)

Less than grade 9 ______
Grade 9 - 12 ______
Some post-secondary education ______
(e.g. University of N.A.I.T.)
University Degree ______

11. How many people are there in your family and what are their ages?

AGE	NUMBER OF MALES	NUMBER OF FEMALES
Under school age		
6 - 14 years		
15 - 24 years		
25 - 39 years		
40 - 64 years		
Over 65 years		

12. Which income group is your family in? (Include all pay coming into the family.)

Less than $10,000 per year ______
$10,000 -$20,000 per year ______
$20,000 - $30,000 per year ______
$30,000 - $40,000 per year ______
Over $40,000 per year ______

APPENDIX 4

City of Edmonton Leisure Survey*

Please answer the following questions about your participation in less active and spectator type leisure activities.

1. Please indicate whether or not you have participated in any of the following leisure activities in The Last Month. Check "Yes" or "No" for each activity. For those activities marked "Yes" answer Question 2.

2. How many hours In a Typical Week during the last month did you spend doing each activity marked "Yes" in Question 1.

Number of hours spent in a typical week

	NO	YES	3	3-7	8-14	15-29	30+
Watching TV							
Listening to the radio							
Listening to records, tapes or cassettes							
Reading books for leisure							
Socializing or visiting with friends or relatives							
Landscaping/gardening/home repairs							
Playing bingo, cards, chess or other games							
Dancing (social)							
Going to pubs, lounges, taverns, etc. with friends							

According to your experience, how important are each of the following factors in reducing your participation in Arts and Cultural activities? (Circle one number for each factor.)

	Of No Importance		Of Some Importance		Of Great Importance
I don't have any/enough information about where/ when I could participate	1	2	3	4	5
I'm not at ease in social situations	1	2	3	4	5
Feel too much daily stress to participate	1	2	3	4	5
Don't have enough free time due to work, school, etc.	1	2	3	4	5
It is difficult to keep commitments	1	2	3	4	5
It costs too much to participate	1	2	3	4	5
I don't know how to do it well enough	1	2	3	4	5
It is difficult to find others to do things with	1	2	3	4	5
Too many family obligations	1	2	3	4	5
Programs/courses/facilities are not available	1	2	3	4	5
It is difficult to get to where the facility/program is located	1	2	3	4	5

* City of Edmonton, Parks and Recreation, Leisure Survey, 1980/1